Proceedings of the 1995 Northeastern Recreation Research Symposium

April 9-11, 1995
New York State Parks Management and Research Institute
Saratoga Springs, New York

Compiled by:
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TRAVEL MOTIVATIONS AND DECISION-MAKING

MOTIVATIONS AND CONSTRAINTS TO SPRING BREAK TRAVEL: A CROSS GENDER COMPARISON

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A convenient sample of students at the University of New Hampshire were the subjects of a survey examining the decision process involved in taking a vacation for the Spring Break period. Six descriptive factors have been identified for both motivations and constraints. The discriminating power of theses factors was examined. The results show that male and female students base their decisions to take a vacation over Spring Break on different motivations and constraints. Some segmentation of the student travel market may be able to take these differences into account and address constraints or emphasize effective motivations.

Introduction

The travel and leisure literature is inundated with articles explaining why people travel (Mazanec, 1984; Shoemaker, 1994). Likewise there is a growing interest in understanding why people do not travel or recreate (Goodale and Witt, 1989). Identifying the factors that influence a person's decision to travel can be beneficial to travel and tourism organizations, park and recreation agencies, businesses or others interested in the travel industry. Identifying the motivations and constraints will aid in understanding the potential vacationer's decision making process. This can be used to develop appropriate marketing techniques designed to remove or reduce identified travel constraints or to enhance identified motivations of specific target markets. Past research has shown that males and females differ in their decision-making process and may therefor be influenced by different factors (Kinnaird, 1994). Information on the possible differences between genders would also be helpful to those interested in the travel industry.

This study investigates the factors that influence spring break travel plans, and compares the relative importance of these factors in predicting spring break travel plans for male and female college students. The objectives of the study are: to identify the underlying motivations and constraints that affect spring break travel decisions for a convenient sample of college students; to examine the discriminating power of these motivations and constraints for males and females with regard to spring break travel decisions; to compare the best predictive models for males and females.

Methods

In order to identify factors that influence a student's decision to travel on Spring Break a survey was developed containing a list of possible motivations and constraints. Each was rated on a 5 point scale from not important to extremely important for motivations and no influence to very strong influence for constraints. A factor analysis was preformed to help condense the motivation and constraint variables. An orthogonal rotation was used to reduce the factor loadings to a simple structure. The variamax method was used to minimize the number of variables that have high loadings on a factor.

To accomplish the objectives of this research discriminant analysis was used to examine the relationship between motivations and constraints, and whether or not the respondent would be traveling during the Spring Break period. This analysis was conducted for both male and female students. This method of analysis was chosen because it allows the researcher to ascertain differences between two or more groups with respect to several independent variables. The discrete dependent variable is defined by the number of groups, while the endogenous factors define the multidimensional space between groups. This linear combination of variables, called the discriminant function maximizes between group variation while minimizing within group variation. In these analyses, the dependent variable was the decision to travel on Spring Break. The independent variables consisted of the motivations and constrains identified in the factor analysis. To examine gender differences a separate classification was performed for males and females.

Results

Sample Characteristics

Four hundred copies of the survey were distributed to a convenience sample of eighty students in an Introduction to Tourism class. Each student completed a survey and then distributed as many as possible to friends within the university community. A total of 216 surveys were returned for a return rate of 54%. Eighty-one of the 216 respondents were male and 135 were female.

The respondents were a reasonable reflection of the University Undergraduate community. All four classes of students were

represented as well as all of the schools within the University (Tables 1 and 2). Although the number of students in each school is not evenly distributed, the number of respondents in each corresponds to the size of the individual school.

Table 1. Class standing of respondents.

Class Standing:	Number in Sample	Percent
1st year student	41	19.0
Sophomore	67	31.0
Junior	48	22.2
Senior	58	26.9

Table 2. Colleges of survey respondents.

Majors by Schools:	Number in Sample
Life Sciences and Agriculture	32
Liberal Arts	59
Health and Human Services	21
Engineering and Physical Sciences	17
Whittemore School of Business and Economics	38
Undeclared	45

Factor analysis

Factor analysis was performed on the motivation and constraint variables included in the survey. Both categories of variables produced six factors which were labelled according to the variables with the highest loadings (Tables 4 and 5). The identified factors explained 63.8 percent of the total variance for the motivation variables and 61.2 percent of the variance for the constraint variables. The six factors identified from the motivation variables (Table 3) were

Growth and education. This factor appeared to reflect a desire among the respondents to make their vacation a time of personal development. This appeared to range from self reflections, as in spiritual growth and examination of personal values, to more general educational objectives, such as learning about an area and experiencing different cultures

Escape. The overwhelming theme among the variables with the highest loadings for this factor was one of relief from the demands of college. Escaping the pressures for relief of tension and mental recuperation appeared to be the common thread among these variables.

Socialization. This factor reflected an interest on the part of the respondents in socializing with friends in a different setting. This included the possibility of meeting new people.

Status. This factor was somewhat less clearly definable than those previously discussed. The theme identified was that the respondents seemed to desire a familiar situation with their peer group. This seemed to extend to helping others to learn, though the control aspect could be said to be retained by the fact that the respondents are in the position of helping others, rather than learning in a new situation

Solitude and peacefulness. In a similar note to the factor called "escape", this factor reflects a desire to get away, though in this case the main concern appears to be to get away from other people. This is further reflected by the negative loading on the variable "to be where there is a lot of action".

Adventure. Experiencing new, active and perhaps dangerous situations is the theme of the final of these six motivational factors. This factor is also strengthened by a negative loading. In this case the negative loading on the variable "to visit family and relatives" suggests that this activity is seen as somewhat the opposite of an adventurous or dangerous situation.

Table 3. Results of factor analysis on motivation and constraint variables.

Factor	Eigen value	Percent of Variance
Motivations		
1. Growth and Education	6.0262	25.1
2. Escape	3.7019	15.4
3. Socialization	1.9589	8.2
4. Status	1.4427	6.0
5. Solitude and Peacefulness	1.1427	4.8
6. Adventure	1.0363	4.3
Constraints		
1. Other Responsibilities	6.2080	27.0
2. Logistic Issues	2.5776	11.2
3. Financial Limitations	1.8024	7.8
4. Information and Indecision	1.3075	5.7
5. Social Arrangements	1.1236	4.9
6. Informed but Unimpressed	1.0604	4.6

The six factors identified from the constraint variables (Table 3) were:

Other responsibilities. This factor reflected respondents feelings that they had prior commitments or other priorities that would constrain them from travelling over spring break. There appears to be a strong theme of family related commitments or responsibilities among the variables in this factor.

Logistic issues. This factor seemed to be connected with the logistical matters involved in making travel plans for the spring break. The constraints here focussed of the process of deciding where to go and the perceived difficulty of planning the travel

Financial limitations. The problems of financing spring break travel are reflected by this factor. The lack of money and the expense of travelling to distant locations were identified here

Information and indecision. The theme identified from the variables in this factor is proposed to be a lack of information on destinations that are most suitable or favorable for the respondents. Respondents may have felt that the "popular" or "desirable" destinations posed problems of distance and crime, while they lacked information on alternative, and perhaps more suitable destinations.

Social arrangements. This factor appeared to reflect social conditions that prevented or constrained respondents

from travelling. The lack of a travelling companion and the distaste for crowded destinations were the constraints identified by the variables.

Informed but unimpressed. This factor appeared to describe a respondent who may have lacked any genuine interest in travelling over the spring break, despite having the information and financial resources. The constraints noted varied widely in their nature and seemed to suggest perhaps a basic lack of interest which might be influenced by previous spring break travel experiences.

Table 4. Variables of the six motivation factors.

Motivations	Loadings
Factor 1: Growth & education	
To learn what I am capable of	0.7928
To develop new skills and abilities	0.7491
To learn about an area	0.7368
To think about my personal values	0.7084
To grow and develop spiritually	0.6543
To help others learn about things	0.6408
To experience different cultures	0.6075
Explained variance: 25.1%	
Factor 2: Escape	
To get away from the demands of college	0.8565
To escape pressures of school	0.8406
To release built up tensions	0.7408
To give my mind a rest	0.7169
Explained variance: 15.4%	
Factor 3: Socialization	
To meet new people	0.7589
To socialize with friends	0.6979
Talking to new and varied people	0.6739
To explore new places	0.6204
To be where there is a lot of action	0.5008
Explained variance: 8.2%	
Factor 4: Status	
To be recognized by my peers	0.7891
To recreate past experiences	0.7071
To be in control	0.5154
To help others learn about things	0.4742
To be where there is a lot of action	0.3632
Explained variance: 6.0%	
Factor 5: Solitude and peacefulness	
Getting away from other people	0.6979
To be where it is peaceful and calm	0.6941
To explore new places	0.3739
To be where there is a lot of action	-0.2640
Explained variance: 4.8%	
Factor 6: Adventure	
To experience dangerous situations	0.6898
To explore new places	0.3188
To be physically active	0.2743
To visit family and relatives	-0.6994
Explained variance: 4.3%	
Total explained variance: 63.8%	

Discriminant analysis

The discriminating power of these factors was estimated for both male and female students by constructing models that predicted the responses to the question of whether the students were or were not going to take a Spring Break vacation. Table 6 shows the model that was the best predictor of the decision of the female students. It shows that three of the constraints were the factors that were the most powerful predictors. It is important to note that none of the motivational factors proved important for the model. Table 7 shows the results of a test of this model. Using these three constraints a prediction of whether a female student would answer yes of no would be correct 72 percent of the time. For male students this model would correctly predict the answer 61.7 percent of the time.

Table 5. Variables of the six constraint factors.

Constraints	Loadings
Factor 1: Other responsibilities	
Responsibilities at home	0.7817
School is a main priority	0.6555
Previous family commitment	0.7543
Family wants to do something else	0.6449
Explained variance: 27.0%	
Factor 2: Logistics issues	
Carrying out travel plans is difficult	0.7239
Not sure where to go	0.6162
Planning a vacation trip is difficult	0.8263
Difficulty in obtaining information	0.7284
Explained variance: 11.2%	
Factor 3: Financial limitations	
Lack affordable transportation	0.7270
Desirable destinations too far away	0.5210
Not enough money	0.8453
Parents will not give money	0.4121
Explained variance: 7.8%	
Factor 4: Information and indecision	
Unaware of travel opportunities	0.5904
Desirable destinations too far away	0.4712
Crime problems at popular destinations	0.7347
Not enough time	0.5568
Explained variance: 5.7%	
Factor 5: Social arrangements	
Friends or relatives cannot go	0.7276
No one to travel with	0.8033
Crowded conditions	0.4031
Explained variance: 4.9%	
Factor 6: Informed but unimpressed	
Weather conditions	0.3982
Did not enjoy past spring break trips	0.2771
Work commitments	0.5646
Parents will not give money	-0.4084
Unaware of travel opportunities	-0.3901
Explained variance 4.6%	
Total explained variance: 61.2%	

A second model was constructed for the male students in the sample. The best predictors of the male students' decisions consisted of two constraint factors and two motivation factors (Table 8). The test of this model shows that it would correctly

predict responses among male students 83 3 percent of the time (Table 9). Among female students the same model was correct 65.3 percent of the time.

One important factor to note among these results is that each model is a more powerful predictor for the gender on which it was based. That is, model I is correct at predicting the decision of female students to a higher level than model II. Similarly model II is more often correct at predicting the decisions of male students than model I.

Another important result is that the two models share only one factor. Constraint factor 1, Other responsibilities, is the only factor that occurs in both of these models. Furthermore, the model based on the responses of female students features no motivational factors. That is, constraints and not motivations were the factors most important in influencing the decisions of female students.

Table 6. Model I: Discriminant analysis results for female respondents (Constraints: Factor 1: Other responsibilities; Factor 3: Financial limitations; and Factor 5: Social arrangements).

Canonical discriminant function statistics		
Wilks' Lambda	**Chi-squared**	**Significance**
0.823	13.911	0.003

Table 7. Percent of "grouped" cases correctly classified from results of predictions based on Model I.

Females	**Males**
72.0	61.7

Table 8. Model II: Discriminant analysis results for male respondents (Constraints: Factor 1: Other responsibilities; and Factor 2: Logistic issues. Motivations: Factor 2: Escape; and Factor 3: Socialization).

Canonical discriminant function statistics		
Wilks' Lambda	**Chi-squared**	**Significance**
0.547	33.752	0.000

Table 9. Percent of "grouped" cases correctly classified from results of predictions based on Model II.

Females	**Males**
65.3	83.3

Discussion

This study identified the motivations and constraints that influence a person's decision to travel during the Spring Break period. Understanding why people travel as well as why people do not travel can be useful in market segmentation. Once the elements involved in the decision-making process are identified they can be targeted to enhance the specific motivations or reduce the specific constraints that are most influential.

The best predictive models that resulted from the discriminant analysis were different for the male and female students. For the male students both the constraints and motivations were elements of the best predictive model, whereas for female students only constraint factors were important as predictors of the decision to travel over the spring break period. This finding reveals that male and female students appear to reach the decision to travel over the spring break through a distinctly different process. In fact the results show that there is only one factor, the constraint "other responsibilities", that is shared by the genders in the decision making process.

The power of the models developed in this study were tested by calculating their predictive accuracy. This test showed that the best predictive model for each gender is the model constructed for that gender. The male model is the best predictor of the males' decision to travel with an ability to predict responses 83.3 percent of the time. The female model is the best predictor of the females' decision with an ability to predict responses for females 72 percent of the time. No one model was the best predictor for both genders. The male model when used to predict female responses is correct 65.3 percent of the time and the female model when used to predict male responses is correct 61.7 percent of the time. This is further confirmation of the finding that the decision making process for the two genders involves different factors.

The one factor that is shared by both genders, "other responsibilities", is a difficult factor to mitigate. This factor includes constraints such as; responsibilities at home, school is a main priority, previous family commitment and family wants to do something else. These constraints have to do with the respondents priorities and previous commitments. Since males' and females' decision-making processes are so different and the one common constraint is difficult to mitigate, the best strategy for those in the travel industry may be to target each group separately. These results actually suggest that the current marketing may address male students adequately by focussing on both motivations and constraints to which male students respond. However, our model suggests that female students do not respond to the same factors. Two conclusions are possible regarding this part of the findings. One is that female students do not respond to motivational factors therefore marketers should attempt to focus on the constraints to travel, as best they can. On the other hand, this study may simply indicate that the motivations currently employed in travel marketing are the wrong motivations for female students.

These two conclusions depend upon an assumption regarding the motivation variables. This study has assumed that the motivations used as variables in the survey are an accurate reflection of the motivations currently used in travel promotion. Strictly speaking it may be more accurate to say that the motivations examined in this particular study appeared to have little effect on female students and their decision-making process. Perhaps future research could focus on determining what are the existing motivations and constraints to Spring

Break travel by asking respondents to list the factors they feel influence their decisions.

This study determined the predictive power of motivations and constraints on the expected travel plans of the students surveyed. Respondents answered survey questions based on their expectations at the time the survey was completed. It would be interesting to follow-up on this study to determine the actual behavior of the students surveyed since the expected travel plans and the actual travel plans may differ significantly.

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AN EXPLORATORY ANALYSIS OF TRAVEL BENEFITS SOUGHT AMONG INTERNATIONAL BUS TOURISTS IN THE USA

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This paper explores the relationships between the travel benefits sought and status of previous visits to the USA (first time vs. repeat tourists) on socio-demographic and travel related variables among international tourists in the USA. "Seeking", "escape", "safety", "learning", "status", and "companionship" were the six dimensions of benefits sought in the bus tour. Repeat and first time tourists differ significantly in their benefits sought in regard to gender, education level, communication confidence in English, amount of travel in the past, amount of trip information received, amount of trip preparation, and source of trip information. The benefits sought by repeat and first time tourists did not differ significantly from each other in regard to where people are from, cost of bus, and their travel party. Overall, repeat tourists are more likely to seek the benefits of "escape", "safety", and "companionship", first time tourists are more likely to pursue the benefits of "seeking", "learning", and "status"

Introduction

Motivation is viewed as a critical variable because it is the impelling and compelling force behind all behavior. An analysis of the motivational stage can reveal the way in which tourists set goals for their destination-choice and how these goals are then reflected in both their choices and behavior. More importantly, it can provide tour operators, tourism planners, and other tourist-related institutions with a better understanding of the real expectations, needs and goals of tourists. Thus, travel motivation has been defined as a meaningful state of mind which sufficiently disposes a tourist to travel, and it is consequently interpreted by others as a convincing explanation for a travel decision (Dann, 1981).

In short, travel motivation is important because it provides a reservoir of ideas for researchers to use in specific studies of satisfaction, decision making and marketing (Pearce and Butler, 1993). Bergier (1981) suggested that benefits sought are a bundle of motive-satisfying attributes representative of factors that affect the degree to which an individual participates in an activity. Although tourists' travel benefits sought have been perceived and used as a powerful approach to tourism market segmentation (Kotler, 1986, Wicks, 1989, Loker and Perdue, 1992, and Lin, 1994), they also have the potential to be used as a measure of travel motivation. Therefore, benefits sought were used to indicate the specific desired conditions of tourists from the tour in this study.

The purpose of this study was to explore the relationships between travel benefits sought and socio-demographic and travel related variables among international tourists in the USA. Based on 12 bus tour participation experiences, the researcher sensed that general differences might exist among repeat and first time tourists on the tour. As a result, the study explored the relationships between travel benefits sought and Visit USA status (first time vs repeat tourists) on socio-demographic and other travel related variables.

Study Methods

A questionnaire was developed as the instrument to collect data for this investigation. The questionnaire included two sections: (a) a section regarding individuals' benefits sought through pleasure travel, and (b) questions targeted towards background information such as the extent of information received about the trip, travel party arrangement, trip preparation, previous visits to the USA, perception of the bus tour and socio-demographic characteristics. The items of benefits sought for pleasure travel were derived from the tourism literature (Loker and Perdue, 1992, Gitelson and Kerstetter 1990, Kerstetter 1990, and Shoemaker, 1989). A pilot study was performed through informal interviews during a bus tour. Twenty-four statements of benefits sought were finalized after the tour. A five-point scale indicated how important each item was to the subject as a reason for traveling (Not important at all, slightly important, moderately important, very important, and extremely important).

The bus tour studied was a general interest tour (three days/ two nights) that included a full range of sightseeing in the Grand Canyon, shopping at factory outlets, and taking in a night in Las Vegas for gambling, taking a leisurely walk and sampling famous inexpensive buffets. However, sightseeing was the main focus of the bus tour for the tourists. The surveys were conducted on 12 bus tours between Los Angeles and Las Vegas from April 6 through May 20, 1994. Tourists who were over 20 years old were approached by the researcher on site as the respondents of the study. Four hundred and twelve usable questionnaires were obtained, representing an 85% overall net response rate to the survey. The respondents included 235 (57%) first time tourists and 177 (43%) repeat tourists in the USA. Taiwan tourists (36.2%) were the biggest group of international tourists, followed by China tourists (21.8%), local & international students (15.8%), tourists from other areas (14.1%), and Hong Kong tourists (12.1%).

Principle component factor analysis with varimax rotation was used to examine the latent dimensions that underlie the measures of benefits sought. Internal consistency of the subscales was checked by SPSS's reliability analysis.

Multivariate analyses of variance (MANOVA) were performed to determine the relationship between the travel benefits sought and visit USA status on socio-demographic and travel related variables. To measure this relationship, factor scores of benefit dimensions were used to represent each of the dependent variables, visit USA status was always treated as the first independent variable and one of the socio-demographic or travel related variables was chosen as the second independent variable. For the socio-demographic and travel related variables, not all categories in certain variables were used in analysis in order to make sense of the results statistically. That is to say, if the number of respondents in one category of a variable was not large enough when broken down into repeat and first time tourists, this category of that variable was not analyzable in tests, and the individuals in this group were not included in the analysis. For example, respondents from Hong Kong were insufficient to split into repeat and first time tourists. Thus, Hong Kong tourists were not used in the MANOVA analysis. If the two way interaction between visit USA status and another independent variable on the benefit sought factors significantly existed, it indicated that the relationship between the overall benefit dimension and visit USA status significantly differed on the categories of that independent variable. For example, the interactive effect of gender and visit USA status was significant on the six benefit dimensions. This means that males are different from females on the relationship between six benefit dimensions and visit USA status. Therefore, MANOVA analyses of the relationship between benefit sought factors on females and males were examined separately to decide whether there is a significant relationship between the overall benefit dimensions and visit USA status. If the relationship between the overall benefit domains and visit USA status was significant, a follow-up analysis of variance procedure was utilized to determine whether each dimension was significantly different between first time and repeat tourists in USA on males or females. However, if the two-way interaction between visit USA status and another independent variable was not significant, this indicated that the relationship between the overall benefit dimensions and visit USA status was not significantly different on the categories of that independent variable. For example, the relationship between the overall benefit dimensions and visit USA status did not differ significantly in terms of areas where people are from. Thus, MANOVA analysis of the relationship between benefit sought factors and where people are from, controlling for visit USA status, and of the relationship between benefit sought factors and visit USA status, controlling for where people are from were examined. Furthermore, analysis of variance was conducted to decide whether each dimension was significantly different between first time and repeat tourists in the USA and between tourists from different areas.

Results

"Seeking", "escape", "safety", "learning", "status", and "companionship" are the six dimensions of benefits sought in the bus tour (Table 1). The six-factor solution explained 65.3% of the variance of travel benefits sought. The reliability analysis suggested a relatively consistent response pattern to each factor regarding travel benefits sought (Cronbach's alpha coefficients range between .71 and .84).

Factor 1-Seeking. This domain consisted of five items referring to the motivation of seeking or novelty. However, the item "to visit popular destination areas" also had a relatively high loading in the status dimension, which may indicate that "to visit popular destination" is a possible way to refer to people's status. The first eigenvalue was 6.49 with 27% of the variance explained.

Factor 2-Escape. This dimension was termed "escape" because of the high loadings on four items related to escape and relaxation. The second eigenvalue, which dropped sharply, was 3.01, accounting for 12.5% of the explained variance.

Factor 3-Safety. This domain clearly referred to "safety/comfort". The third eigenvalue was 2.26, accounting for 9.4 % of the variance of the benefits sought.

Factor 4-Learning. This factor was made up of items related to learning things and socializing with new people. However, the items "to learn new things" and "to know more about different culture" were also related to the "seeking" dimension since they also showed a relatively high loading on the "seeking" factor; "to meet people with similar interests" was related to the "safety", "status" and "companionship" dimensions due to a relatively high loading on all three domains. This factor had an eigenvalue of 1.63 with 6.8 % of the variance explained.

Factor 5--Status. The items of this factor were related to tourists' status awareness. However, the items in this factor were also quite related to other factors due to high loadings on those factors. "To learn more in specific attractions" is related to the "seeking" dimension; "to feel good being tourists for pleasure" is related to "safety"; "to have something to tell friends later" is related to the "socializing" and "seeking " dimensions. The fifth eigenvalue was 1.24, accounting for 5.2% of the variance.

Factor 6--Companionship. This factor is directly related to close companionship, indicated by high loadings on being with and doing something with friends and family. The sixth eigenvalue was only 1.04, accounting for only 4.3% of the variance.

Repeat and first time tourists differed significantly in their benefits sought in regard to gender, education level, communication confidence in English, amount of travel in the past, amount of trip information received, amount of trip preparation, and source of trip information. The benefits sought by repeat and first time tourists did not differ significantly from each other in regard to where people are from, cost of the tour, and their travel party (Table 2).

Table 1 Factor analysis of benefits sought items.

Travel Benefits	Factor 1 Seeking	Factor 2 Escape	Factor 3 Safety	Factor 4 Learning	Factor 5 Status	Factor 6 Companion ship
To see interesting sights	.84598	.00855	04896	02847	08409	.02679
To view the beautiful scenery	.78503	15206	06684	-.01012	21968	05577
To experience new and different things	.74216	.26264	-.05812	21385	-.03912	.08315
To explore new places	.65141	.20407	.20266	.30609	- 08468	.00408
To visit popular destination areas	63017	.01530	.17115	.00257	35939	-.00304
To help release or reduce tensions	.05964	.83063	.10026	.03486	.10567	- 05809
To get away from the regular routine	.21607	.76085	00574	.09872	-.04165	15955
To give my mind a rest	.32395	.75234	.14936	05462	11168	-.03660
To escape usual demands of everyday life	-.05491	.71990	18003	.18668	-.11616	.16119
To travel with safety	.17327	.03272	.80266	.17297	-.11680	.17530
To have a well-prepared trip	.00080	10555	.72771	02236	.20632	.33792
To travel with an organized group	.15853	.20684	.69791	.03333	.23441	-.04464
To be in a group people are considerate	- 04312	.14270	.62466	24727	.17894	.36737
To meet new and friendly people	.10011	.00710	.22722	.75533	10238	.24078
To practice my English	-.05346	.09368	.12613	.69901	.09742	-.00454
To learn new things	.33293	.13488	.02188	62487	.20712	- 06238
To know more about different cultures	.34734	.22492	-.11380	52862	.15499	-.10031
To meet people with similar interests	.02219	.09099	.31770	51903	.36422	35479
To feel like achieving something trendy	-.00637	.06967	.07482	.31241	.71000	-.10485
To learn more in specific attractions	.36571	-.08268	.09896	.09308	.67028	.19068
To feel good being tourists for pleasure	.07592	.08857	.43272	.08729	.63295	-.01471
To have something to tell friends later	.38969	-.07205	-.03835	.35847	.51245	-.01594
To do something with family or friends	-.04779	05822	.27515	.07751	.03261	.86734
To be with friends or family	.06667	.08847	.14143	.00896	.11597	.86484
Cronbach's alpha	.83	.81	.80	.75	.71	84
Eigenvalue	6.49	3.01	2.26	1.63	1.24	1.04
Percent of Variance Explained	27.0	12.5	9.4	6.8	5.2	4.3
Cumulative Variance Explained	27.0	39.6	49.0	55 8	61.0	65.3

Controlling for socio-demographic and other travel related variables, repeat tourists differed from first time tourists in their benefits sought to various degrees except on those who had no more than high school education or those who were moderately confident in their English communication ability. There were more significant differences for benefits sought of "seeking", "safety", "learning", and "companionship"; and less significant differences in the benefits sought of "escape" and "status". No matter what the differences were among repeat and first time tourists, first time tourists were more likely to pursue the benefits of "seeking", "learning", and "status"; repeat tourists were more likely to seek the benefits of "escape", "safety", and "companionship" (Table 3).

Table 2. MANOVA analysis of the relationship between benefits sought factors and visit usa status on socio-demographic and other travel related variables

Interaction	Pillais Value	Multivariate F	Degree of Freedom
Gender x Visit	.036	2.50*	6,403
Where from[1] x Visit	.028	1.10	6,230
Education[2] x Visit	.092	2.13**	18,203
Travel party[3] x Visit	.037	2.03	6,319
Cost of the tour[4] x Visit	.017	1.16	6,403
Travel Past[5] x Visit	.066	2.27**	12,804
Com-confidence[6] x Visit	.080	2.78**	12,804
Inform. amount[7] x Visit	.070	2.42**	12,804
Preparation[8] x Visit	.041	2.90**	6,403
Source inform.[9] x Visit	.073	2.29**	12,726

* Significant at .05 level, ** Significant at .01 level

1 Where from included only tourists from Taiwan and China.

2 Education included tourists with no more than high school education, some or junior college, college degree, and graduate degree.

3 Travel party included tourists travelling with family or with friends.

4 Cost of the tour included tourists perceived cost is ok or not expensive.

5 Travel past included tourists that did all the travel they wanted, did most of the travel, and would like to have done more travel.

6 Comm-confidence included tourists who were very or extremely confident, moderately confident, and slightly or not confident in their English communication.

7 Inform. amount included tourists who received a great amount or much, some amount, and very little or no trip information.

8 Preparation included tourists who had at least some trip preparation or very little or no preparation.

9 Source inform. included tourists who received trip information from family or friends, or newspaper.

Conclusion

The reliable results of the benefits sought in this study demonstrate the legitimate use of benefits sought as a measure of travel motivation. It also could provide the researcher a starting point to investigate international tourists' travel experiences. Further analysis might include the identification of dimensions of travel satisfactions, of significant predictors of travel satisfaction, and so on.

Certainly, the understanding of the benefits sought in this study could provide the tour agency valuable information on what needs to be done to develop a tour package to attract and satisfy the tourists.

In this study, while "seeking" was the most important factor of benefits sought, "escape" and "safety" were also two major benefits sought by the international tourists. "Learning" and "status"were two relatively minor benefits sought. Tourists sought the least benefits of "companionship" from the tour.

Overall, the expectation of benefits sought among tourists was realistic. It is logical for the tourists to be looking for novelty or something new and safe in their international travel experiences. However, it was interesting to find that"escape" was the second most important factor to explain tourists' benefits sought, although it is difficult to pursue "escape" benefits in a mass and well-structured bus tour. This might be due to the left-over effects of tourists' benefits sought for their international travel back home. The tourists also expected that "learning ", "status", and "companionship" benefits were not easy to achieve. Those expectations were pretty accurate indeed considering the bus tour experiences in this study.

There were significant relationships between visit USA status and benefits sought in regard to socio-demographic and travel related variables. In fact, the benefits sought differences among repeat and first time tourists were significantly different among tourists in different categories of gender, education level, communication confidence in English, amount of travel in the past, amount of trip information received, amount of trip preparation, and source of trip information. However, repeat tourists were always more likely to seek the benefits of "escape", "safety", and "companionship"; first time tourists were more likely to seek the benefits of "seeking", "learning" and "status". This implied that visit USA status was the most important variable among socio-demographic and travel related variables associated with tourists' differences regarding travel benefits sought. In other words, the "real" travel experiences were the essential reason contributing to tourists' benefits sought differences. Therefore, from the management perspective of the tour agency, the revealed general differences of benefits sought between repeat and first time tourists implied that the identification of tourists' visit status is the first and most essential step for the successful delivery of leisure service. That is to say, the results of this study may help to reduce the costly operation of the travel business.

Table 3. Univariate analysis of the relationship between benefits sought factors and visit USA status controlling for socio-demographic and other travel related variables.

Independent Variables	Factor 1 Seeking	Factor 2 Escape	Factor 3 Safety	Factor 4 Learning	Factor 5 Status	Factor 6 Companionship
Male	First*			First*	First*	Repeat**
Female		Repeat**	Repeat**			
Where tourists are from	First**			First*		Repeat**
No more than high school						
Junior or some college		Repeat*				
College degree	First*		Repeat*			Repeat**
Graduate school	First*		Repeat**	First*		Repeat*
Travel party	First*		Repeat**			Repeat**
Cost of the tour	First**		Repeat*	First**		Repeat**
Did all the travel	First*	Repeat*	Repeat**			Repeat**
Did most travel		Repeat**				Repeat*
Would like to have done more				First*		Repeat*
Very or extremely confident	First**	Repeat*	Repeat**	First**		Repeat*
Moderately confident						
Slightly or not confident			Repeat**			
A Great Amount or Much	First*		Repeat*	First*		Repeat**
Some Information					First*	Repeat**
Very little or no information	First*		Repeat**	First*		
At least some preparation			Repeat*		First**	Repeat**
Very little or no preparation	First**		Repeat**	First**		Repeat**
Source from family	First**	Repeat*				Repeat**
Source from friends				First*		Repeat*
Source from newspaper			Repeat**		First**	Repeat**

First* means first time tourists have higher benefits sought than repeat tourists (significant at .05 level)
First** means first time tourists have higher benefits sought than repeat tourists (significant at .01 level)
Repeat* means repeat tourists have higher benefits sought than first time tourists (significant at .05 level)
Repeat** means repeat tourists have higher benefits sought than first time tourists (significant at .01 level)

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AN EXPLORATORY ANALYSIS OF INTERNATIONAL VACATION DECISIONS IN THE CONTEXT OF TERRORISM RISK

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Relationships between four personal factors (i.e., past international travel experience, risk perception level, attitude toward international travel, traveler personality) and a key stage (i.e., extent of information search) in international vacation travel decisions involving terrorism risk were examined. Five hundred subjects with either interest or experience in international travel were surveyed (48% response rate). Results revealed that risk perception level and attitude toward international travel directly predicted the extent of information search undertaken by potential travelers during their travel decisions.

Introduction

Statistics gathered by the World Tourism Organization (WTO 1993) provide strong evidence of the importance of tourism to world prosperity. The international tourism industry recorded nearly US $304 billion in receipts and US $3 trillion in international and domestic revenues in 1993 (WTO 1994) and is expected to reach $5.8 trillion in 2005 (WTTC 1992). The WTO recorded over 500 million worldwide visits in 1993 and estimated between 592 and 690 million in 2000. These figures attest to the fact that international travel has become an integral and natural component of today's lifestyles for millions of people. Despite its financial strength, however, the tourism industry is highly vulnerable to the threat of international terror.

The threat posed by terrorism to the traveling public is certainly not new, however the interest it has generated is relatively so and can be traced back to the 1980s. Following the peak of international terrorist activity in the mid-1980s, the inevitable effects of terrorism on tourism became the object of attention. A few of the most publicized terrorist events include the 1986 hijacking of a PanAm airliner in Karachi (20 deaths), the 1986 hijacking of the Achille Lauro cruise ship in the Mediterranean (1 death), the 1985 machine gun attacks at the Rome and Vienna airports (18 deaths, 100 injuries), the 1988 bombing of PanAm 103 over Lockerbie (270 deaths), and bombings of various tourist sites (e.g., Athens hotel, 1985; West Berlin discotheque, 1986). Renewed attention became focused on the topic during the 1991 Persian Gulf War, when the threat of world-wide terrorism again became a plausible concern. While travelers were not directly targeted, the threat of terrorism has taken on new dimensions after the "sarin" gas attack on Japan's subway system in March 1995 and the Oklahoma City bombing in the U.S. in April 1995.

Due to their symbolic nature, international travelers are more vulnerable to terrorist threat than domestic travelers. To understand the impact of terrorism on travelers, it is important to study individuals who undertake international travel with regard to not only their travel but also decision-making behavior. This study has focused on several personal factors and their impacts on a key stage of international vacation travel decisions which involve an awareness of terrorism and/or political instability risk.

Travel Decisions

Analyses of tourist decision-making within the established framework of consumer choice processes have revealed that potential travelers compare alternative destinations according to perceived benefits and costs (Crompton 1992; van Raajj and Francken 1984; Woodside and Lysonski 1989). Benefits involve the potential of satisfying the initial need to travel in a positive manner and costs may be monetary (e.g., travel expenses) and nonmonetary (e.g., social, psychological, time costs; various risks involved with trip). These concepts imply that potential travelers weigh benefits and costs during the decision-making process and make selections based on which destination offers the most benefits for the least cost. Several variables become important to the understanding of international vacation travel decisions involving terrorism risk, such as previous travel experience, risk perception level, attitude toward international travel, and traveler personality.

Previous Travel Experience

Both consumer and tourist decision-making literature suggest that personal experience is integrated into decision-making as passive or internal information search (Crompton 1992; Evans and Berman 1992; Howard 1963; Um and Crompton 1990).

Mazursky (1989) who examined the effects of past travel experience on tourist decisions, found that travelers' personal experience may exert more influence on decisions than information from external sources. He added that future behavioral intentions can be influenced, among other things, by individuals' extent and nature of past travel experience. Mazursky's (1989) research supports Goodrich (1978) who earlier found that perceptions of a destination depend on the individual's previous travel experiences.

Risk Perception Level

Risk perception level of the traveler refers to the amount and types of risk she/he associates with international travel. Risks associated with travel, travel constraints, and inhibitors/facilitators have been examined only recently (Crompton 1992; Mansfield 1992; Roehl and Fesenmaier 1992; Um and Crompton 1990). From seven types of risk identified in consumer behavior literature (e.g., equipment, financial, physical, psychological, satisfaction, social, time) (Schiffman and Kanuk 1991, pp. 180-181), Roehl and Fesenmaier (1992) found that financial, psychological, satisfaction, and time risks were most often associated with pleasure travel. Their analysis implies that risk perception level plays an important role in the traveler decision-making process.

Attitude Toward International Travel

Um and Crompton (1992) argued that travel attitude, which reflects individuals' beliefs, feelings, and behavioral orientations, is an important indicator for predicting a final destination choice from several alternatives. In an earlier study, Um and Crompton (1990) defined attitude as "the difference between perceived inhibitors and facilitators" and image as "derived from attitudes toward the destination's perceived tourism attributes" (p. 433). Thus, just as consumers' psychographic characteristics (e.g., attitudes, interests, opinions) impact their buying behavior (Evans and Berman 1994), individuals' attitudes toward travel impact their travel destination choices (Roehl and Fesenmaier 1992; Um and Crompton 1990).

Traveler Personality Type

Personality type refers to an individual's psychological profile as a traveler. Plog's (1974) commonly cited model of traveler personality which places tourists along a continuum ranging from "psychocentric/stabilizer" (safety-seeking) to "allocentric/venturesome" (adventure-seeking) adds another dimension to the effort to understand risk-taking and risk-avoiding behavior displayed by travelers. This classification may be used to imply that allocentric/venturesome type travelers would be less disturbed by international vacation decisions made within the context of terrorism threat than psychocentric/stabilizer types.

Extent of Information Search Involved in Decision-Making

Information search refers to the extent of active or formal search for information to establish destination alternatives, from which a choice is made. Information gathering is considered an important aspect of tourist behavior (Mansfield 1992; Mazursky 1989; Roehl and Fesenmaier 1992). Mansfield (1992) proposed that travel information comes from formal (e.g., commercial environment) and informal (e.g., social environment) sources. Roehl and Fesenmaier (1992) identified information search behavior as a common risk reduction strategy, implying that more information gathered during decision-making resulted in higher levels of self confidence and lower levels of risk perception.

Purpose of Study

Based on models of traveler decision-making influenced by perceived risk (Mansfield 1992; Roehl and Fesenmaier 1992), this study examined a key stage in the process of international vacation travel decision-making when there is an awareness of terrorism risk, namely the extent of information search undertaken, and the impact of several personal factors on it. The following hypotheses constitute the research problem.

> Within the international vacation travel decision-making process involving an awareness of terrorism and/or political instability risk, information search is related to international travel experience, risk perception level, international travel attitude, and personality type. More specifically,
>
> H_{1a} information search is directly related to international travel experience,
>
> H_{1b} information search is directly related to risk perception level;
>
> H_{1c} information search is directly related to international travel attitude; and
>
> H_{1d} information search is directly related to personality type.

Methodology

A self-administered questionnaire was mailed to a random sample of 500 individuals who previously traveled internationally or who expressed an interest in international travel. A 48 percent response rate was obtained. Past international travel experience was determined through five single- and multiple-item questions. The number of past trips as well as the range of experience (i.e., different regions of the world) were grouped first into sub-scales, standardized, then grouped into an overall measure of travel experience. Four sub-scales were used to determine risk perception level: (a) perceptions of risk and safety associated with fifty countries were measured using a 5-point Likert-type scale ("very safe" to "very risky"), (b) levels of ten risk types associated with international travel were measured with a 6-point Likert-type scale ("none" to "very high"); (c) attitudes toward international travel in terms of risk were assessed with five safety/risk related adjectives with a 7-point semantic differential scale; and (d) international travel risk views were measured with fifteen statements using a 5-point Likert-type scale ("strongly agree" to "strongly disagree"). Each sub-scale was standardized and then consolidated into a "risk perception index." Cognitive and affective dimensions of attitude toward travel were measured with two sub-scales: (a) cognitive component (i.e., beliefs) was measured with nineteen bi-polar descriptors using a 7-point semantic differential scale and (b) affective component (i.e., feelings) was measured with eight statements using a 5-point Likert-type scale ("strongly agree" to "strongly disagree"). Both sub-scales were standardized and combined into an overall "travel attitude scale." Traveler personality type was determined with four questions on a 4-point Likert-type scale ("very much" to "not at all") developed and revised by Plog (1974; 1990). The scale was used with special permission from Dr. Stanley Plog and responses were computed according

to his instructions of grouping subjects into categories of personality type. The extent of information search conducted by subjects was measured by a twelve-item question regarding their use of various information sources, on a 5-point Likert-type scale ("always use" to "never use"). Reliability of each of the sub-scales (i.e., travel experience, risk perception index, attitude scale, personality type) and the measure of information search was tested with Cronbach's Alpha Coefficient.

Multiple regression analysis was utilized to test hypothesized relationships between the four independent variables (travel experience, risk perception level, attitude toward international travel, personality type) and the dependent variable (extent of information search involved in international vacation travel decisions) and to identify those independent variable(s) exerting the strongest influence on travel decisions. Relationships were considered statistically significant at the .05 level. To address the question of possible nonresponse bias, a random sample of nonrespondents were selected and interviewed by telephone. Differences between the two groups were examined by using independent sample t-tests.

Results

The most reliable scales were the "travel attitude scale" (Alpha=.87), the "travel experience scale" (Alpha=.79), and the "risk perception index" (Alpha=.74). The "personality type scale" was found to be the least reliable (Alpha=.36). Reliability of the twelve-item measure of the extent of information search was also high (Alpha=.82). An examination of the extent of travel experience revealed respondents to have significant and relatively recent international travel experience, in fact, only 5% of the sample reported they had never traveled internationally (Table 1). Approximately 20% reported having last traveled internationally in 1994 and 60% between 1990 and 1993. Forty percent of respondents reported they had traveled to between four and six regions around the world (e.g., South America, Middle East, Africa, Far East). Asked about future plans, nearly 76% indicated they were likely to travel internationally within the next twelve months.

Responses to questions regarding risks associated with various countries demonstrated that Canada, New Zealand, Switzerland, Sweden, and Australia were perceived as safe or very safe countries. On the other hand, respondents most often demonstrated perceptions of high risk for Middle Eastern and African countries, such as Iraq, Somalia, and Libya with which the U.S. has had political or military confrontations (Table 2). With regard to questions involving risk types, it was found that the risk most often associated with international travel was health (becoming sick while traveling), followed by financial (spending too much money for not enough value) risk. Equipment (problems with transportation or accommodations), terrorism (being involved in a terrorist act), and political instability (becoming involved in the political turmoil at the country being visited) risks were also among the five which were most often associated with international travel. Time (spending/wasting too much time), social (friends/family disapproving of vacation choices or activities), satisfaction (being dissatisfied with trip), psychological (disappointment with trip), and physical (possibility of accidents) risks were the least often associated with international travel (Table 3).

Table 1 Extent and range of respondents' past international travel experience.

International Travel Experience	**N**	**%**
Number of International Trips (over lifetime)		
None	10	4.2
Between 1-9	83	34.9
Between 10-19	97	40.5
Between 20-29	28	11.6
30 or more	21	8.6
Total	239	100.0%
Number of Regions Respondent Traveled to (over lifetime)		
None	10	4.2
Between 1-3 regions	85	35.4
Between 4-6 regions	96	40.1
Between 7-9 regions	42	17.5
10 or more regions	7	2.9
Total	240	100.0%
Date of Last International Trip		
1994	47	19.8%
1990-1993	142	59.9%
1980-1989	28	11.8%
1970-1979	7	2.8%
Never traveled internationally	13	5.5%
Total	237	100.0%

Table 2. Countries identified by respondents as "safest" and "riskiest."

	N	**Mean[a]**
Safest Countries		
Canada	239	1.17
New Zealand	240	1.22
Switzerland	240	1.23
Sweden	240	1.30
Australia	240	1.35
Riskiest Countries		
Iraq	240	4.55
Somalia	240	4.48
Libya	239	4.47
Lebanon	239	4.45
South Africa	240	4.03

a/ Responses to 5-point Likert-type scale included "very safe" (1), "safe" (2), "neither safe/nor risky" (3), "risky" (4), and "very risky" (5).

Attitudes toward international travel were found to be generally positive. The measure of the cognitive dimension of attitude indicated that respondents considered international travel to be more "interesting" (mean=6.46) than "boring," more "positive" (mean=6.02) than "negative", and more "useful" (mean=6.01) than "useless" (Table 4). Responses to statements measuring the affective dimension of travel attitude revealed that subjects disagreed or strongly disagreed with statements such as "international travel is not enjoyable" (89.2%), "I don't like

vacationing in foreign countries" (87.4%), and "foreign travel makes me feel uncomfortable" (74.7%) and in addition, respondents agreed or strongly agreed with the statement "international travel is a positive experience" (88.3%). With regard to traveler personality, the majority of respondents were found to be "midcentrics" (38.4%) located centrally on Plog's continuum. The next largest group of subjects was found to be "allocentric/venturesome" (31.9%) and the smallest group was comprised of "psychocentric/stabilizer" types (29.8%).

Table 3. Types of risk respondents most and least often associated with international travel.

	N	Mean[a]
Risk Types Most Often Associated		
Health Risk	239	3.79
Financial Risk	236	3.60
Political Instability Risk	240	3.55
Equipment Risk	240	3.54
Terrorism Risk	240	3.42
Risk Types Least Often Associated		
Physical Risk	238	3.41
Psychological Risk	238	2.85
Satisfaction Risk	237	2.85
Time Risk	239	2.57
Social Risk	239	2.10

a/ Responses to 6-point Likert-type scale included "none" (1), "very low" (2), "low" (3), "medium" (4), "high" (5) and "very high" (6).

Table 4. Respondents' attitudes toward international travel.

Bi-polar Adjectives (Value=1)	Bi-polar Adjectives (Value=7)	N	Mean
Negative	Positive	240	6.02
Relaxing[a]	Stressful	238	3.60
Secure[a]	Risky	240	3.72
Unpleasurable	Pleasurable	237	6.02
Meaningful[a]	Meaningless	238	2.39
Threatening	Non-threatening	239	4.82
Valuable[a]	Worthless	237	2.08
Unsociable	Sociable	238	5.60
Comforting[a]	Terrifying	240	3.00
Useless	Useful	239	6.01
Important[a]	Unimportant	238	2.26
Scary	Reassuring	240	4.52
Attractive[a]	Unattractive	237	2.04
Undesirable	Desirable	238	5.97
Safe[a]	Dangerous	240	3.34
Unnecessary	Necessary	236	4.95
Boring	Interesting	237	6.46
Good[a]	Bad	238	2.02
Calming[a]	Exciting	238	5.42

a/ Items were recoded in the computation of scales.

With regard to the extent of information search conducted, responses indicated that information sources most often used were personal experiences followed by travel professionals. As shown in Table 5, social interaction was found to play an important role in information acquisition. Respondents referred to word-of-mouth information, as well as friends and family members and business associates. On the other hand, embassies and consulates of foreign countries and their travel information offices were not found to be very popular sources among respondents. Interestingly, government travel advisories were also not consulted regularly

Table 5. Ratings of the sources of information used by respondents.

	N	Mean[a]
Sources Used Most Often		
Personal travel experiences	239	1.77
Travel professionals	240	2.43
Others' travel experiences	238	2.47
Word-of-mouth	238	2.58
Friends/family members	239	2.57
Business associates/peers	238	2.65
Sources Used Least Often		
Embassies/consulates	240	3.95
Travel information offices	240	3.69
Travel programs/videos	240	3.50
Travel advisories	240	3.25
Travel magazines	240	2.84
Newspapers' travel sections	239	2.75

a/ Responses to 5-point Likert-type scale included "always use" (1), "often use" (2), "sometimes use" (3), "seldom use" (4), and "never use" (5).

According to the results of the multiple regression analysis, only two of the four independent variables were significantly correlated with the dependent variable, extent of information search. The strongest was attitude toward international travel (r=.447), followed by personality (r=.185). The multivariate analysis revealed travel attitude to be the strongest predictor of the extent of information search, followed by risk perception level (Table 6). The combined linear effects of the four personal factors explained 25.7 percent of the variance in the dependent variable (p<.000). The hypothesis was partially accepted (H_{1b} and H_{1c}), for risk perception level and international travel attitude.

Table 6. Results of multiple regression of personal factors on the extent of information search (dependent variable).

Independent Variables	Bivariate r	Standardized Coefficient Beta	Unstandardized Coefficient b
International Travel Experience	.120	-.050	-.467
Risk Perception Level	.002	.267[a]	2.120
Attitude Toward International Travel	.447[a]	.597[a]	4.742
Personality Type	.185[b]	-.027	-.099
N = 177	R^2	.257[a]	38.471 (Constant)

a/ Significant at .001; b/ Significant at .01

Risk perception level was not a significant correlate of the extent of information search (r=.002; p=.487), however, it emerged from the multivariate analysis as a significant predictor (B=.267; p<.000). Findings indicate that as an individual's level of risk perception increases, so does the extent of his/her information search, while controlling for travel experience, travel attitude, and personality type. Attitude toward international travel was the strongest correlate (r=.447; p<.000) as well as the strongest predictor (B=.597; p<.000) of the extent of information search. Findings demonstrate that the more positive an individual's attitude is toward international travel, the greater his/her extent of information search.

Interestingly, travel experience did not emerge as a significant predictor of the extent of information search, although it approached significance as a correlate of the dependent variable. While findings imply that the extent of information search may increase or decrease (according to whether it is examined as a bivariate or multivariate variable) as travel experience increases, the related sub-hypothesis (H_{1a}) was rejected due to unacceptable significance levels of the results of both the bivariate and multivariate analyses. The bivariate analysis revealed a significant correlation between personality type and the extent of information search. However, while the analysis suggests that allocentrics conduct less information search than psychocentrics, results of the multivariate analysis revealed that personality type was not a significant predictor.

Conclusions and Discussion

Information search was found to increase as attitudes toward international travel improve. This finding supports Buchanan's (1985) assertion that positive interest in or commitment to a leisure activity involves a higher level of investment, when information search (i.e., consulting travel professionals, reading travel books) is considered to be an investment of time and effort. In this study, individuals who perceived higher levels of risk practiced a greater extent of information search. Findings support Roehl and Fesenmaier's (1992) assertion that information search behavior is a common risk reduction strategy. This indicates that an individual will gain greater self-confidence, and be better prepared for travel experiences, after having obtained information from various sources. Thus, the more informed individuals become about upcoming travel (e.g., destination characteristics, transportation, costs, risks) the less risk they are likely to associate with the trip.

Contrary to the proposed hypothesis, previous travel experience was not found to predict the amount of information search individuals undertake in making international vacation travel decisions within the context of terrorism risk. This study examined only the extent of previous international travel and not the nature of such experience. The quality of past experience (which may be positive or negative) may have an unrecognized impact on information search. Although personality type did not emerge as a significant predictor of the extent of information search, results do imply that individuals who are closer to the allocentric/venturesome end of the traveler personality continuum may feel less need for information in making international vacation travel decisions in the context of terrorism risk. This may be attributed to their reliance on personal travel experiences for information.

Implications

Terrorism has the potential to sabotage the tourism industry which is reliant on peace and stability, and in turn threaten the international economic order. While tourists expect governments and the travel and tourism industry to protect them from terrorism, ultimately individuals must assess risk on their own and take appropriate actions for self-protection while traveling. This responsibility is comparable to travelers' fulfillment of inoculation requirements as stated by some countries before traveling to them. On the other hand, while governments search for methods to minimize threats posed by terrorism, it would benefit the international tourism industry to examine market variables such as consumer behavior and decision-making. Continued prosperity of international travel and tourism depends on political stability as well as comprehensive marketing activities which anticipate difficult situations. International vacation travel decisions involving terrorism and/or political instability risk are a crucial aspect of traveler behavior which must be understood by tourism marketers. Marketing efforts can become more efficient and cost-effective if traveler behavior can be predicted and kept in focus, and special efforts to deal with real or perceived terrorism risk can be identified and implemented.

The results of this study have implications for travel marketers. First, by recognizing the impact of perceived risk on travel decision-making, marketers of international vacation destinations can become more sensitive to the information needs of potential travelers and can help to reduce their customers' perceptions of risk by providing comprehensive and accurate information. Potential travelers who learn more about various aspects of international trips and destination alternatives are likely to feel more comfortable in their decision-making and choice processes. Some of the information which may be useful to provide travelers may include destination characteristics (e.g., government type, neighboring countries), local customs and culture, and actual risks involved with the trip and destinations being considered (e.g., health, political situation, terrorism) which may actually be far less than perceived risks. Second, travel marketers may benefit from the recognition that individuals who are most interested in gathering information during the decision-making process are likely to have a positive attitude toward international travel to begin with. Marketing efforts can then be focused on other areas, such as determining and satisfying traveler needs, rather than on trying to change attitudes. Third, Recognition of the importance of personal factors such as perceived risk and attitude toward international travel and their impacts on travel decisions and information needs may help marketers determine effective strategies to communicate successfully with potential clients. In other words, promotional messages may be more successful if travel professionals can anticipate and address traveler concerns.

Attitude toward international travel and risk perception level have emerged from this study as factors which play important roles in travel decisions. Marketers can only hope to influence customer decisions favorably if they understand psychographic characteristics of their customers. International vacation travel decisions involve a complex process which is further confounded by the inclusion of terrorism/political turmoil risk. It is important from a marketing perspective to understand this complicated process.

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A REGIONAL ARTS FESTIVAL'S MARKET: CAN IT BE SEGMENTED BY RESIDENCE?

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Fairs, festivals, and other community-run special events are a growing force in the tourism industry. The purpose of this study was to investigate the motivations, evaluation, and overall satisfaction of individuals attending a regional arts festival and whether they differed with respect to residence. The results of the study showed that residents differed from non-residents in the percentage they allocated to four of six motivations. With respect to evaluation of the Festival, residents and non-residents differed significantly in their evaluation of five of the thirteen statements. The same pattern held true when residents and non-residents were asked to indicate their overall satisfaction with the Festival. Non-residents were more satisfied with the Festival than were residents. Overall residents were more critical of the Festival than non-residents. The results suggest that managers of events such as festivals need to recognize differences in their visitors. In the case of this Festival, it would behoove the board to consider marketing to residents and non-residents differently.

Introduction

Festivals, in anthropological terms, serve as occasions for individuals of a community to "get their lives together"; to mutually and periodically restore the sense that their lives are coherent, significant, and satisfying (Smith, 1975). Festivals and special events are cultural manifestations of our lives and traditions, and are organized to create a positive image or enhance an existing one and bring in money to the local economy (Uysal and Gitelson, 1994) Many fairs and festivals start out as small community events where local residents and neighbors celebrate the area's heritage, history and culture. These events are often seen as an expression of the social norms and values of the community (Chock and Schooner, 1993). Festivals and special events are certainly not a new addition to the field of tourism yet there is a growing need for more research in this area. Festivals and special events are "one of the fastest growing forms of leisure and tourism related phenomena (Getz, 1991)."

Retch (1984) studied six types of impact of hallmark (e.g. festival and special events) events: economic, tourism/commercial, physical, sociocultural, psychological, and political Sociocultural impacts appear to have the most positive functions -- they result in a permanent level of local interest and participation in activities associated with the event, and they strengthen regional traditions and values. Psychological impacts also result in an increase in local pride and community spirit (p. 4).

Occasionally, tourism brings conflict between residents and non-residents. However, Uysal and Gitelson (1994) suggested festivals and special events can minimize negative impacts, contribute to sustainable development, foster better host-guest relations, and help preserve sensitive natural or social and cultural environments (p. 3).

Several researchers have studied visitor behavior or perceptions at events or festivals (e.g., Burns, Hatch and Mules 1986; Wang and Godbey,1987; Mohr, Backman, Gahan and Backman, 1993). Mohr, Backman, Gahan and Backman (1993) studied festival motivation and event satisfaction by visitor type. They found four visitor types: repeat general festival visitor/repeat FWA (Freed Weekend Aloft) visitor, repeat general festival visitor/first time FWA visitor, no-general festival visitor/repeat FWA visitor, and first time general festival visitor/first time FWA visitor. Significant differences did not exist between demographic characteristics and first time versus repeat festival visitors; however, significant differences were found for two motivation dimensions-excitement and event novelty. There has also a difference in festival visitor satisfaction across the four visitor types. The researchers found that tourists' motivation occurs simultaneously -- tourists desire change and escape from the daily routine at the same time they intrinsic personal and interpersonal rewards. While Mohr, Backman, Gahan and Backman (1993) addressed general behavior as it related to travel, they argued that the need exists for further information on behavior and choices in relation to festivals and special events.

The purpose of this study was to investigate the motivations, evaluation, and overall satisfaction of individuals attending a regional arts festival and whether they differed with respect to residence

Methods and Data Collection

Ralston and Stewart (1990) studied methodological approaches of festival research studies. They suggested using a triangulation approach (Webb et al. 1966, cited in Ralston and Stewart, 1990) This approach includes checking each observation or measurement by another operational form. Since all methods have bias, obtaining converging evidence by two or more methods increases the confidence in the results compared to evidence emerging from a mono-method study (Jones, 1985, Zeisel, 1981, cited in Ralston and Stewart, 1990) The study reported here depicts an attempt at triangulation

using two techniques of on-site and mail-back questionnaires (pp. 289-291)

The Central Pennsylvania Festival of the Arts began in 1969 as a town/gown sponsored event in State College, Pennsylvania to attract business to the downtown area during the summer After 26 years, the Festival has become a summer tradition (Kerstetter and Gitelson, 1994).

Data for the study were collected from a random sample of individuals who attended the Central Pennsylvania Festival of the Arts from Thursday, July 14th to Sunday, July 17th, 1994 Individuals were contacted via an on-site interview and a follow-up questionnaire Two-thirds (n=715) of the sample completed both the on-site interview and the follow-up questionnaire. The follow-up questionnaire consisted of four sections: expenditure data, festival behavior, information use, and visitor information. For the purposes of this study, the only information referenced was that which was provided in sections two-festival behavior -- and section four -- visitor information.

One sample of respondents was most likely to be female (60%), relatively wealthy (2/3 earned in excess of 60,000 per year) and educated. More than two-thirds of the respondents lived outside the county in which the Festival was held (Centre County). (See Table 1)

Table 1. Socio-demographic data of sample.

Items	Category	Frequency (N)	Percent
Gender	Male	276	38 6
	Female	427	59 7
Income	Under 20000	61	8 5
	20000 to 39999	155	21 7
	40000 to 59999	184	25.7
	60000 to 79999	114	15 9
	80000 or More	155	21.7
Education	High School	74	10.3
	Business/Technical School	31	4 3
	Some College	82	11 5
	Graduated-College	246	34 4
	Some Graduate-Work	61	8 5
	Completed-Graduate Degree	205	28 7
Live	Centre County	250	35.0
	Other Regions	460	64.3

Data Analysis and Results

In this study, "residents" were considered to be visitors living in Centre County Non-residents were visitors living in outside Centre County In order to address the purpose of this study, the respondents were categorized an "residents" or "non-residents" Analyses were run to determine whether significant relationships existed between resident status and motivation, evaluation, and level of satisfaction (See Figure 1).

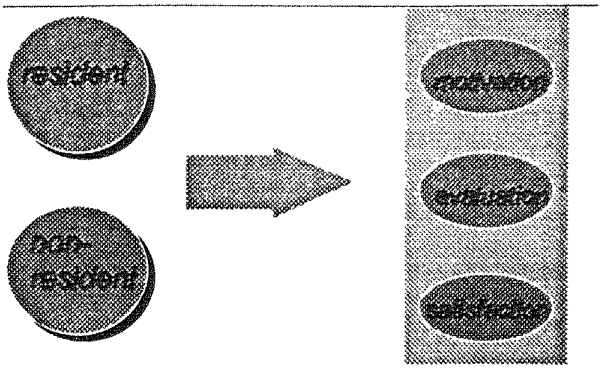

Figure 1. Relationship between residence and three dependent variables.

In order to document visitors' motivations, respondents were asked to assign a percentage as to the level of importance each of six motivations had in their decision to attend the Central Pennsylvania Festival of the Arts They were asked to make sure that the total percentage equaled 100%.

The rankings of motivations were different between residents and non-residents The motivation ranking of residents was as follows: (1) to have fun (30 92%); (2) to purchase fine arts & crafts (22.13%); (3) to see and learn more about the arts (15 51%); (4) to visit with friends and/or relatives (12 79%); (5) to do something different (12.51%); and, (6) other (5 99%). However, the motivation ranking of non-residents was: (1) to purchase fine arts & crafts (29 63%); (2) to have fun (28 05%), (3) to visit with friends and/or relatives (17 85%), (4) to see and learn more about the arts (11 64%); (5) to do something different (8 99%); and (6) other (3 80%) (Table 2)

Motivations to attend the Arts Festival was significantly different between residents and non-residents.

When residents and non-residents were compared, non-residents were more inclined to purchase fine arts and crafts than were residents. And, non-residents also were more likely to visit with friends and/or relatives than were residents. On the other hand, residents were more inclined to see and learn more about the arts than were non-residents In addition, residents tended to want to do something different more than non-residents (See Table 2)

The evaluation of the Arts Festival was significantly different between residents and non-residents.

Evaluation of the Festival was obtained via 13 statements which involved responding on a five-point scale ranging from "very poor" to "excellent "

Even though respondents did not significantly different in there overall evaluation, residents and non-residents differed significantly in their evaluation of five of the thirteen statements In all cases, residents were more critical than non-residents of the Festival Non-residents gave higher marks to "guest behavior," "indoor exhibitions," "food along the Route," "cleanliness," and "opportunity to learn (Table 3) "

The overall satisfaction of the Arts Festival was significantly different between residents and non-residents. To assess overall satisfaction respondents were asked to document their feelings on a seven-point scale ranging from "low" to "high." When residents and non-residents were compared, non-residents were more satisfied with the Festival than were residents. The satisfaction of both groups, however, was generally high (Table 4).

Conclusion

To the extent that events are often inexpensive to develop, and if properly organized will generate little negative impact, they can be viewed as being more sustainable than other forms of tourism development. And, because they are essentially cultural in nature and lead to host-guest contacts, increasingly event tourism is being looked upon as a clear alternative to mass tourism (Getz, 1994). The purpose of this study was to compare residents' and non-residents' motivation to attend, evaluation of, and satisfaction with the Festival of the Arts.

The fact that residents differed from non-residents in terms of their motivation to attend the Festival is noteworthy. Residents were more inclined to value "seeing and learning" suggesting that the Festival is more to them than a "fun" event. Additionally, it is not surprising that residents were more critical of the Festival than non-residents. Retch (1984) and Uysal and Gitelson (1994) have suggested that hallmark events such as festivals have sociocultural impacts that increase residents' level of interest and participation in activities associated with the event and strengthen regional traditions and values. The Central Pennsylvania Festival of the Arts has been in existence since 1969; thus, residents may have greater loyalty to and expectations of the Festival. These results suggest that managers of events such as festivals need to recognize differences in their visitors. In the case of this Festival, it would behoove the board to consider marketing to residents and non-residents differently. For example, the Festival as a source of culture and local pride should be reinforced to residents whereas non-residents would be presented with the message of "fun and excitement" and be reminded of the shopping opportunities at the Festival.

Table 2. T- test results of motivation between residents and non-residents (NR).

Items	Mean Value Residents (S.D.)	Mean Value NR (S.D.)	Mean Value Difference (Prob.)
To Have Fun	30.92 (22.33)	28.05 (20.50)	1.72 (.087)
To Purchase Fine Arts & Crafts	22.13 (21.41)	29.63 (26.98)	- 4.04 (.000)***
To See and Learn More About the Arts	15.51 (18.90)	11.64 (17.66)	2.65 (.008)**
To Visit with Friends and /or Relatives	12.79 (16.60)	17.85 (23.14)	-3.34 (.001)**
To Do Something Different	12.51 (18.05)	8.99 (15.36)	2.59 (.010)*
Other	5.99 (17.30)	3.80(12.62)	1.91 (.056)

* p<.05 ** p< 01 *** p<.001

Table 3 T- test results of evaluation between residents and non-residents (NR).

Items	Mean Value Residents (S.D.)	Mean Value NR (S.D.)	Mean Value Difference (Prob.)
Information	4.22 (.67)	4.17 (.73)	+0.77 (.440)
Guest Behavior	4.14 (.70)	4.31 (.66)	-3.12 (.002)**
Volunteers	4.35 (.71)	4.35 (.67)	-0.11 (.910)
Sidewalk Sale	4.20 (.77)	4.29 (.73)	-1.46 (.144)
Indoor Exhibitions	3.84 (.75)	4.11 (.75)	-2.04 (.044)*
Performing Artists	3.99 (.72)	4.13 (.71)	-1.84 (.067)
Parking	3.35 (1.07)	3.50 (.99)	-1.57 (.116)
Shuttle Bus Service	4.21 (.80)	4.32 (.84)	-0.86 (.389)
Physical Layout	3.97 (.81)	4.09 (.71)	-1.89 (.059)
Food along Route	3.77 (.82)	3.99 (.73)	-3.36 (.001)**
Cleanliness	4.08 (.74)	4.27 (.67)	-3.24 (.001)**
Opportunity to Learn	3.76 (.84)	3.92 (.78)	-2.30 (.022)*
Having Fun	4.30 (.65)	4.40 (.62)	-1.97 (.050)
Overall Rate	51.95 (7.68)	52.12 (6.64)	-0.11 (.912)

* p<.05 ** p<.01

Table 4. T- test Results of Overall Satisfaction between Residents and Non-residents (NR).

Items	Mean Value Residents (S.D.)	Mean Value NR (S.D.)	Mean Value Difference (Prob.)
Overall Satisfaction	5.36 (.968)	5.53 (.985)	-2.14 (.033)*

* p<.05

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ROUNDTABLE AND MANAGEMENT DISCUSSION

UTILIZING INTEGRATED RESOURCE MANAGEMENT TO ACHIEVE RECREATION GOALS IN NEW HAMPSHIRE STATE PARKS AND STATE FORESTS: AN EVOLVING MODEL OF PLANNING AND PROCESS

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This paper describes a simple and cost effective approach to integrated resource management utilized on New Hampshire's state-managed lands that might be applied by other resource management agencies and organizations. It is a management process that addresses a broad range of resource concerns in the development and implementation of management actions. The particular focus of the paper is on integrating recreation management goals into commercial timber harvests on state parks and state forests, and on integrated management plan development.

A Perspective of Integrated Resource Management

Integrated resource management is not a new concept, and it has been practiced in varying degrees and forms by state and federal land management agencies over the years. In fact, it is a process that has been evolving over several decades. The concept of integrated resource management, at this point in its evolution, basically consists of a project design that incorporates, as much as possible, the understanding of the implementation effects of that project within the environment that surrounds it. The effects are both biological and sociological. The decision makers/project approvers are provided with an insight on the positive or negative effects associated with each of the alternatives analyzed which allows them to be aware of the costs and benefits and helps them choose an alternative wisely.

Integrated Resource Management on New Hampshire State-Managed Lands

New Hampshire is a relatively small state with a diverse landscape. The New Hampshire seacoast, the White Mountains, and the Lakes Region are all within a few hours drive of each other. Approximately 87% of New Hampshire's 5.75 million acres are forested, and the forest varies from the spruce-fir and northern hardwood types of northern New Hampshire to oak-pine forests of the southern part of the state. There's a little over a million acres of public land in New Hampshire. The White Mountain National Forest, at 745,000 acres is the largest public landowner in the state. The state forests and state parks comprise the majority of the remaining public lands, about 170,000 acres. The Department of Fish and Game owns about 28,000 acres.

The Division of Forests and Lands and The Division of Parks and Recreation are sister agencies under Department of Resources and Economic Development. They collectively manage the state parks, state forests, natural areas, and other department lands. Primary management responsibility varies as to whether a land unit is a state park or a state forest, but the two divisions work closely together on all department lands. Both divisions are charged by law with protecting and managing the natural resources under their stewardship for the enjoyment and benefit of present and future generations. The Division of Forest and Lands is particularly charged with the stewardship of the forest resources while the Division of Parks and Recreation is particularly concerned with recreation resources. Also within the Department of Resources and Economic Development is New Hampshire's Natural Heritage Program, which maintains a data base on rare and endangered plant and animal species, and advises on their protection and enhancement. There is no single natural resource agency in New Hampshire, and management of fish and wildlife species is the responsibility of The Department of Fish and Game. The New Hampshire Division of Historical Resources, a division of the Department of Cultural Resources, provides expertise on the management of cultural resources on state land.

These resources are managed using an integrated resource management process that has evolved over time. There has traditionally been a strong tendency to compartmentalize management disciplines, the recreation managers do their thing, the foresters do their thing, the wildlifers their thing, and so on. Other values, visual concerns, rare plants and animals, and historical cult were considered through these disciplines, if at all. The multiple-use philosophy embodied in the Multiple-Use Sustained Yield Act of 1960 has been, at best, unevenly applied on state lands. Now a new paradigm is emerging, ecosystem management (O'Hara, Seymour, Tesch, and Guldin, 1994).

Compartmentalized management results in forest management plans with recreation and wildlife addendums, or recreation plans with forestry addendums. It results in management

jurisdiction zones being defined within the same property. It means you don't harvest trees commercially or cost-effectively within recreation areas. This largely describes management on our state lands prior to the mid nineteen eighties. To be fair, there was a process in place to at least coordinate, not integrate, individual management actions. The beginning of New Hampshire's present integrated management process might be traced to a single event that occurred in 1971. The director of the Division of Parks had planned a sleigh ride for some friends and politicians at Bear Brook State Park, a major state park near the Concord headquarters of the department. Apparently unaware of the sleigh ride, or perhaps just not invited, the director of Forest and Lands ordered the snow covered roads of the park sanded the day of the sleigh road for a logging operation that was occurring in the park. Needless to say, there were some ruffled feathers. After the dust settled, a group called the Cooperative Land Management Working Committee (CLMWC) was formed. The original group was composed only of representatives of the Division of Parks and Recreation and the Division of Forest and Lands. The advantages of talking to each other soon became apparent, and the group was expanded to include the Department of Fish and Game and The Department of Environmental Services.

The Cooperative Land Management Working Committee was formalized in an agreement between the participating agencies. It met quarterly, and reviewed individual management actions and general policy issues. By the 1980's, the Cooperative Land Management Working Committee had evolved into mostly a policy group. The sheer volume and complexity of management going on state lands made it impractical for mid-level bureaucrats, the general membership of the committee, to deal with individual management actions on a quarterly basis. As recently as 1989, proposed management actions, almost exclusively timber sales, were prepared by forest technicians and presented in the form of a planning report. The planning reports were run by The Department of Fish and Game and the Division of Parks and Recreation. They might be commented on, which generally resulted in some modifications to the action. In the case of some proposals on state park lands, the project were vetoed, or conditioned to the point they became impractical to perform.

A number of resource professionals directly involved in planning and implementing management actions on the ground recognized the need for a better system. With the encouragement of people like the former Director of Parks Wilbur LaPage and the Chief of Forest Management Tom Minor, changes were made. Proposed management actions were discussed before the project planning report was written, and specialists in addition to wildlife biologists, foresters, and recreation planners were invited into the process. In particular, the Natural Heritage Program ecologist and an archeologist from the Division of Historical Resources participated and strengthened the process. With the broader participation the process began to seriously review projects other than timber sales, projects such as trail construction, prescribed burns, habitat improvement, and others.

This team approach that developed was informal at first. There were a lot of field reviews of proposed projects, and sometimes a number of visits were needed to get everyone's input. Monthly meetings were started to share projects, coordinate calendars for field visits, and determine which projects actually needed field visits. In 1991, this arrangement was formalized and the this new working group was called the State Lands Management Team. The charter of the Cooperative Land Management Working Committee has been recently revised to reflect the existence of the State Lands Management Team and its role in resource management. The Cooperative Land Management Working Committee remains active in overseeing policy and administration of the lands management program in New Hampshire.

Although the agencies participating in the present integrated resource management process due so in the formal structure just described, their participation is voluntary. The process continues to evolve, but it currently works this way: agencies bring proposed management action to the State Lands Management Team for review and input at the initial stages of planning. The review may take place at the monthly meeting of the team, or it may occur in the field. The initial proposal may be written or just a discussion, but the project should end up in a written report form as it solidifies. The more significant management proposals are generally brought back to the team a number of times, and the implementation of the action is tracked by the team.

A public comment period is provided for all significant management actions, such as timber sale. Town officials and property abutters are notified by mail, and notices are placed in local papers. Public hearings are provided for particularly sensitive actions. Management plans are usually developed utilizing a variety of public input techniques, but it should be noted that the "Bear Brook Management Plan" discussed in this paper was developed without the benefit of a formal public input process. The plan is considered a working draft and is presently undergoing public review.

Applications of Integrated Resource Management on State Lands

The Bear Brook State Park Management Plan

Bear Brook State Park is located in southeastern New Hampshire. It is the third largest property owned by the State of New Hampshire, containing 9,585 acres. Established recreation sites occupy about 672 acres (about 7%) of this park with the remainder, about 8,913 (93%), managed for dispersed recreation.

In 1991, a resource inventory was completed. Also in that year, as a result of discussions pertaining to a timber sale being planned, it was decided by the members of the State Lands Management Team that an integrated management plan was needed for the Park. This plan should address both the present condition as well as the desired future condition of the Park. The plan should be integrated so that conflicting uses are strategically located so as to not conflict with other uses.

This Park traditionally has supported a wide range of recreational activities including hiking, snowshoeing, cross country skiing, dog sledding, snowmobiling, picnicking, camping, hunting, and fishing. It also has a tradition of forest management activities such as timber harvesting.

To begin the task of management planning, similar and complimentary uses were grouped together. This permitted the planning team to simplify the tasks of organizing uses and conceptualizing possible conflicts. At Bear Brook these uses conveniently fit into 4 logical categories. These categories are briefly highlighted in this paper.

Category #4 is basically designated recreation facilities. These facilities are the paramount management concern. Other uses within the area zoned out for this use are secondary and if conflicting, will be relocated. Silvicultural goals have been altered within this area to maintain a visually pleasing "park like environment", safe from tree hazards. Visual quality and human safety will always take priority over timber quality and wildlife habitat within these areas.

Category #3 uses dealt with uses that were disperse but of high impact. These uses are permitted but it was felt that they needed to be located in areas of the Park where they would conflict the least with other uses. These Category #3 uses traditionally were located around the outer portions of the Park for various reasons. First, they blended in well with the disturbed environment contained on surrounding private lands - feeder trails into and out of the Park, heavy cutting outside the Park boundaries, some limited agricultural activity. Second, these users probably feel more comfortable in this area away from crowded conditions, and heavily regulated uses.

Category #2 uses contain a little less impact. Many of the uses are the same but are somewhat scaled back. Wildlife and timber management in these areas will promote older forests and lighter cutting strategies. This in turn will provide very different habitats than in the areas managed under other categories. The visual impact to park users will be lighter. Nature study and wildlife viewing will offer a variety of habitats and natural communities resulting in a spectrum of floral and faunal species.

Category #1 management will promote very old forests and little impact. Hiking and other non-motorized activities are encouraged here. This area will also provide large cavities and snags as well as late successional habitats for wildlife. This Category offers a larger selection of environments for nature study by providing habitat for diverse flora and fauna. We expect foot traffic to increase in these areas.

These categories fit the into the Park framework not by a mosaic of small patches but instead by design into large scale land patterns in respect to this section of New England (Hunter 1990). For example, acreage described in Category #1 constitute 2050 acres within two patches, Category #2 contains 3,366 acres within two patches and Category #3 contains 3497 acres within four patches. Category #4 contains 672 acres within 6 patches. These patches have been strategically located to purposely prevent conflicts from differing user groups. The juxtaposition of the categories (officially termed "management criteria") also provides for maximum biological diversity by establishing a disturbance gradient by locating heavily disturbed sites near the unprotected outside private lands at the Park's perimeter. Management criteria #1 is located in the center and most protected area of the Park. Criteria #2 is located between criteria #1 and #3 as a transition from heavy to light management.

Criteria #4 is located in established sites and most probable sites for future expansion of designated recreational facilities.

The Campground Timber Harvesting Operation

Bear Brook State Park contains a public campground that is open to the public from Memorial Day to about Columbus Day for family style camping. These sites are somewhat primitive in that they contain no electrical hookups or running water. This campground opened in 1952 and has never had a forestry operation within it since that time (43 years). The forest on site is a mature Eastern white pine. The mature overstory (about 90 feet tall) was estimated to be only approximately 60 years of age. The forest was experiencing a significant amount of mortality. More than 40% of the trees in this forest contained visible metal, such as nails, as well as open wounds from vehicles scrapes and vandalism. Significant staff time was spent removing hazard trees.

A prescription was prepared with the assistance of the park staff and the State Lands Management Team. The trees requiring removal were designated with paint and sold to a local logger with the capability of chipping all logging residue and selling the residues for boiler fuel at a profit. Logs containing metal were used at various locations within the Park as barriers and the remaining logs were sold to local sawmills for lumber production.

The project resulted in a profit for the stumpage, and freed up the Park staff to do other tasks within the Park. An added benefit from the operation was the addition of sunlight to the remaining tree crowns which are expected to sustain their growth and lessen the incidence of hazard trees in the near future.

Bear Brook State Park - Vista Cuts

An area was identified along the Podunk Road in management criteria #2 for group selection cutting. The Podunk Road receives much car traffic in the summer through fall seasons from Park visitors. The project to do the timber harvesting was reviewed by the State Lands Management Team and the Division of Parks and Recreation identified the desire to place vistas along the road to enhance visitors enjoyment of the road.

The vistas were integrated into the silvicultural and wildlife goals for the project. Criteria #2 permits openings no larger than 2 acres. By working with the lay of the land, vistas were incorporated that were visually, silviculturally and biologically functional.

Kingston State Park
This park was purchased by the State of New Hampshire in 1933. There is no record of any forest operation on this tract since state ownership. This Park contained pockets of dying Eastern white pine and well distributed individual stems of dying hardwood. Many large pines were located near buildings and were a source of concern due to the decadent condition of the trees and because of their contribution to the buildings deterioration from heavy shade and pine needle build-up.

Consultation with the State Lands Management Team yielded a prescription to remove the hazard trees for public safety, thin the forest to maintain the health and vigor of the residual stems and to regenerate small patches of forest to prevent the forest from maturing all at one time. The thinning and patches would also increase habitat for some wildlife species and make such species more visible to the public.

Again, a local logging contractor was hired to remove the stems. He used a mechanical tree felling device (feller/buncher) to safely fell the stems and pile them near the roadside for skidders to access and drag to a central yarding area. All merchantable solid wood products were removed from the stems and the remainder were chipped and sold as boiler fuel. The State of New Hampshire yielded a profit by selling the stems to the logging contractor and accomplished the Park maintenance at no cost. After the logging was completed, a crew from the State Prison was brought in to remove any debris not taken by the logging contractor.

Mechanical harvesting permitted the logger to safely fell stems leaning over the buildings, which otherwise would have been an expense to the Park. Normally, a tree service would be needed to remove such trees. Because of the volume of timber being removed (about 25% of the volume), the trees were felled profitably.

The harvesting took place following an exceptional bumper crop of Northern red oak acorns. Results from some non-random regeneration plots one growing season after cutting revealed seedling levels between 18,000 to 129,000 Northern red oak seedlings per acre. Estimates of the number of random plots that would be stocked would be approximately 80% or more.

Implications

New Hampshire State Parks and State Forests, like many public land management agencies, have experienced generally declining maintenance budgets over the last decade. This budget decline is exasperated by an increase in public lands and new and varied public use pressures on these lands. One result of these circumstances has been an increased willingness on the part of public land administrators to consider innovative solutions to the challenges created by reduced budgets.

It is in this environment that the integrated resource management approach described in this paper has come into being. There are a number of advantages to this team approach, but the major advantage is probably that it provides for real integration but does not require any changes in organizational structure. In addition, this approach: pools scarce management resources; broadens the influence of any given field; shapes management decisions early on, and strengthens individual management actions by avoiding errors and providing integrity and validity.

Problems? Policy makers were at first leery of a new group that might yea or nay projects, or try to set policy. This is a matter of making everyone involved very aware of purpose and limits of the team. Team members themselves can begin to forget they only advise, except where there is law involved. Agencies have to be willing to bring their projects to the table, and not just comment on others projects. Participation is voluntary.

The future? There are a number of projects/activities that are currently non controversial and as such are not high priorities for full blown alternative and effects analysis. Thus the level of integration is low and decisions are often made regarding their implementation that are narrowly focussed. There are two major reasons why we as professional resource managers need to increase the level of integration. The first is that the availability of open land is decreasing which means that the demands placed on the remaining lands are increasing. As that happens, the level of controversy over conflicting demands will also increase. Now is the time to anticipate and prepare for this by increasing our knowledge about the effects of possible alternatives through research or practical application before there is a crisis. The second is that professional resource managers should constantly be striving to understand as many of the ramifications of implementing a plan or project as possible. A complete analysis of the issues, concerns and opportunities, coupled with an objective affects analysis, is an indication of an open objective process prepared by a truly professional resource manager. This involves shifting from a multiple-use paradigm to ecosystem management. It will require the increased use of research and technology, such as GIS, in analyzing effects, identifying alternatives and making decisions. Resource managers will use the input of interdisciplinary teams, made up of a variety of specialists, in the decision making process. Public input will also be an important source of issues, concerns and opportunities, and integrating public input in an effective and efficient manner will be one of the significant challenges to public resource managers in the future.

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THE PUBLIC INTEREST IN OUTDOOR RECREATION: OR WILL THE INVISIBLE PAW REPLACE THE RESPONSIBLE ARM?

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Recent legislative actions by the new Congress are threatening the existence of the public forests and parks, continuing the razing of the federal civil service, and have raised anew the long dormant question of the proper role of the federal government in our society. More generally, the proper role of government at any level in society is being brashly questioned.

Some economists have long been concerned with questions of the proper role of government as they have demonstrated through their investigations of "public" vs. "private" goods, or what is most efficiently produced by the public sector rather than the private sector.

For example, in 1969, University of Michigan Professor of Economics Peter O. Steiner wrote that...

> "If one starts at any point and place in history--such as the United States in 1969--it is clear that the society has decided that there exist certain activities that are legitimately performed by governments. Many activities are by long tradition provided by various levels of government and are paid for by using the police powers of the state to raise funds. Others are left to the private sector. Without wishing to disparage the importance of the debate about the proper dividing line between private and public sectors, the fact is there is a large, relatively stable and broadly uncontroversial governmental "sector" of this economy, and of every other economy in the world" (Steiner 1969, 13).

Steiner then discussed the way demands for governmental activity arise, are explained, and then how they are made legitimate. To him, this process involves the nature of 'the public interest.' Steiner then states that economists have real problems in assessing what the "public interest" is He says, for instance, that economists have excellent methods of determining which of two public housing proposals will get the 'biggest bang for the buck', but have only primitive or sometimes zero methods for deciding whether public housing is right or proper.

Dorfman (1966) describes public goods'(such as law and order) essential characteristic as. . "that they are enjoyed but not consumed, and their benefits are derived without any act of appropriation." However, Steiner comments that though Dorfman's definition demonstrates that there are government activities that are socially desirable that will not be achieved by the unaided private market, those are not the only class of goods which government can legitimately provide. He observes that examples are hard to find, and that the great bulk of nondefense public expenditures are for goods and services that do not meet Dorfman's definition. Steiner notes examples such as roads, schools, welfare payments, recreational facilities, housing, public power, irrigation etc., which can be consumed in whole or in part, and can be made subject to user charges (1969, 16). Indeed, many of the goods and services government provides can be privately provided, either under contract with the government through a private operator or by marketing them in some fashion. This of course is what has been called for under the recent National Performance Review sponsored by the current federal Administration.

As most readers know, the Administration has already embarked on reductions in federal programs based upon the entrepreneurial concept of government "re-invention" provided by David Osborne and Ted Gaebler (1992). The new Congress has given even heavier impetus to reductions in federal programs than has the Administration, including those providing outdoor recreation opportunities. Although these reductions began with the Executive Branch's reinvention of government efforts, Congressional efforts to balance the budget contemplate drastic reductions in the federal service using less foresight and planning than had already been criticized in the Administration effort (Kettl, 1994).

In addition, the sudden and continuing openly anti-government campaign in the U.S. political landscape, seemingly correlated with the Congressional budget cutting efforts, has been paralleled by vigilante type radical actions by citizens and groups against federal lands and installations in the Western states, such as national forest and Bureau of Land Management office bombings and clashes over roads with local governments. These were tragically surpassed by the bombing of the federal building in Oklahoma city, with some 167 deaths, and the terrorist conection apparently with various private militias of alienated citizens developing in recent years out in the countryside (e.g. New York Times, May 11 and 17, 1995; Washington Post Weekly, May1-7 & May 8-14, 1995). News reports suggest the anti-government campaign was stirred to prominence both by recent political victories, also allegedly via several years of agitation by certain media and groups who feel alienated from government, and by growing economic stress among many citizens.

The rhetoric associated with these anti-government actions has resulted in in the introduction of legislation, some with potential for enactment, of measures to turn large areas of federal lands used for outdoor recreation back to the states or counties. Other legislation passed by both houses would allow revenues from the sale of public lands and other federal assets to be calculated in budget deficit reductions (5/24/95), 52 for,

47 against in the Senate. Elimination of whole departments in the federal government are under consideration and have in at least one case have passed both houses of the Congress. Also, appropriations recission bills have passed the House of Representatives zeroing out current fiscal year funds for the administration of such programs as the Endangered Species Act and others. Rhetoric about eliminating other government programs of one kind or another is now often in the press.

The New York Times reported that the Chief of the U.S. Geological Survey was recently before the House Appropriations Committee pleading for the survival of his agency, it having been recommended for abolition. The Commerce Department, which contains the National Marine Fisheries Service, has been voted out of existence by both houses of Congress, but as of this writing still awaits action by the President. Ironically, the private militias have apparently been meeting and training on or in the vicinity of some of the despised public wildland areas normally utilized by outdoor recreationists and their families.

All federal legislation has been hamstrung by the suspension of authority to make new regulations (H.R. 9), the same bill also requiring "Risk Assessments" and cost benefit analyses for still existing regulations. Environmental programs such as the Clean Water Act have been radically reduced in scope by the Congress, and other reductions of environmental laws have been reported out of committee. The chairman of the House Resources Committee recently suggested to the Chief of the Forest Service that he will turn the Alaska National Forests over to the State of Alaska. There have even been press reports attributed to the leaders of the House of Representatives to the effect that the professionalism of the U.S. Civil Service has somehow failed, and implying that the "spoils system" might be reinstated throughout all government agencies.

However, as noted above, little has been said about what the public interest is. Economists have tried to come to grips with this definition by discussing the nature of public goods as opposed to collective goods and private goods (see Steiner,P., 1969). However, Kettl (1993) has stated that "although the results of the American version of privatization have varied widely, the overriding lesson is that there is no function (of government) left that only the public sector can deliver "

Other analysts have been reporting on the reduction effort and the first study of the Executive Branch's National Performance Review (NPR) by an outside analyst of public management is now available and has been discussed on television (Kettl,D., 1994; PBS, McNeil-Lehrer News Hour, Sept 14, 1994) Dr Donald Kettl of the University of Wisconsin stated that NPR has been plagued by "a preoccupation with savings over performance improvement" and that the reinvention effort has not addressed the questions of "where do procedural due process and proper administrative safeguards become red tape? Does customer service contradict other government goals? In what direction should government steer and how good are the ideas that serve as its compass? And finally, just who are the the government's customers and how can they be served? (Glass, More & Gilbert addressed this issue in case of wilderness 'customers' in their 1992 NERR paper)..."

Kettl notes that the driving spirit of the effort to downsize government comes from Osborne and Gaeblers' 1992 book Reinventing Government. Kettl's comments were written before a National Public Radio news program in the fall of 1994 reported that a small California city starring in their book had suffered a major financial loss in regard to the private hotel center it had subsidized as part of its reinvention. And since that time of course, we have suffered the ultimate debacle in entrepreneurial government with the bankruptcy of Orange County California, through its losses of in excess of $1.5 billion in the derivatives market, because the County treasurer had complete freedom to invest public funds without any "red tape", such as reporting his actions to the County Supervisors in writing, and being required to make his actions known to the press.

One of the prime requirements of entrepreneurial reinvented government according to Osborne and Gaebler "is the power to spend money on new ideas without having to ask for permission" (p.211). They propose that public managers have the freedom to invest taxpayers' money for profit in enterprises of one kind or another, up to $25,000 without permission of a superior, and maybe legislative approval beyond that. "It would force managers to think like investors," they state (1992, p.212). No doubt this is just what the Orange County Treasurer was thinking. And is Gaebler going to be accountable for the losses to Visalia, California where he was City Manager when the city financed the private hotel center on city land, if it suffered the loss reported on National Public Radio news?

Bringing this situation down to earth in the arena of public lands and outdoor recreation, the Forest Service has grounded its reinvention program in what it calls a glocal perspective, but emphasizing that the glocal representatives will be "drawn whenever possible from the local community" (USFS, 1994, p.43). While this local orientation has long provided a foundation for national forest policy, is it enough now to prevent attempts of local governments to actually seize National Forest land as their own, as recently occurred on the Toiyabe National Forest, where newspaper reports state that the local Sheriff of Nye County Nevada, asserted that the county owned a closed Forest Service Road He then ran a bulldozer out and opened the road, ignoring a Forest Service official who was ordering him to stop. Further deterioration of other federal administration and management is occurring through the contracting out of administration, selection of managers and personnel from outside the civil service system (Hoogenboom, 1961) or complete privatization of administration (Salamon, 1989).

Even though Salamon (p. 258-259) points out that indirect tools like competitive contracting have been conventionally believed to be more efficient than direct agency action for getting an ample supply of services out to program recipients. However, in practice, the degree of competition for government contracts has often been quite limited. The privatization of commercial

refuse hauling in New York, for example, did not work out because the few private companies in the business refused to compete and formed holding companies, dividing the market up among themselves.

Salamon notes elsewhere (p.12) that while the Office of Management and Budget has endorsed such privatization, the President's Council on Integrity and Efficency conclude's that "holding managers more directly accountable for the efficient administration of their programs and operations is the single most effective means of preventing waste and deterring fraud." Salamon notes that the problem of course is that privatization and the preventing of waste and fraud are in significant conflict. How this problem is going to be solved by the reinvention programs in the Forest Service and other federal agencies is not yet explained in the re-invention plans, nor by their critic, Dr. Kettl (1994).

The agency answer may be suggested by the Forest Service's December 6, 1994, Reinventing the Forest Service: The Changes Begin, on p. 43, where it states that "For-profit organizations can offer attractive partnerships. We must eliminate the red tape and suspicion often associated with such arrangements." Was this what the Forest Service was thinking of after long time Oregon U.S. Attorney Charles H. Turner testified before a Congressional committee on October 5, 1993 that ..."theft of timber from lands managed by the Forest Service in Region 6 is widespread and historical. .fraud is widespread...bid rigging is believed to exist widely in Region 6...law enforcement (agents of the Forest Service) is impeded in their efforts to investigate theft and fraud..." (Turner, 1993, 18-35). The solution was decisive; the Eugene, Oregon Register-Guard headlined on April 7, 1995 with a front page story: "TIMBER THEFT WATCHDOGS SHUT DOWN. The U.S. Forest Service on Thursday disbanded its timber theft task force, which had fallen into disarray after its investigators accused superiors of deliberately interfering with their work"(1995, p.1).

Despite such horror stories, the Congressional action either contracting out or the actual transferring federal forest lands and programs, including those used for outdoor recreation, to the states or to private ownership is now within the realm of possibility. The House of Representatives has already done that with the federal school lunch program and federal welfare programs. Recreational lands would seem to be logical next candidates, since there are already private companies such as Disney that are in the intensive recreation business, and smaller companies such as Treasure Lake, Ohio, which furnish boating, swimming and overnight facilities on a large scale basis. The failure of the Bumpers amendment (May 24, 1995) to the Senate Budget Resolution suggests what may happen. Bumpers amendment would have prohibited including revenues from the sale of the public lands and other assets in budget deficit reduction calculations. The amendment lost 52-47 in a straight party line vote, with only Senator Cohen, Republican of Maine, breaking party ranks.

Transferring federal programs to the states is not a new idea. It began as far back as 1887 when the Hatch Act was passed, transferring most all of the scientific personnel and work of the U.S. Department of Agriculture to the states. While that seems to have worked out in a fortuitous fashion, transferring the National Forests to the states might not prove such a blessing. However, it has been recommended recently by University of Washington Forest Sociologist R.G. Lee. Lee (1994) suggests "government ownership of land is proving to be a far greater threat to liberty than many of us had thought (p.171)." And he proposes transferring national forest and BLM lands to private ownership or to community development corporations or community land trusts, in order that local loggers and other residents can "govern their own lives and invent better ways of using the land (p.175)."

Public outdoor recreation lands and the research necessary for the professional management of those lands appear to be in for some rough and very lean years. Outdoor recreation has often been described as a "public" good akin to libraries, art museums, symphony orchestras, highways, sewers, etc. Loss of lands, loss of professional management, and loss of research funding crucial to decision-making appear immanent. By the time you read this, the decisions will problably have been made. Much of what has been accomplished in both conservation policy and management improvement during the past 50 years may go down the drain. Many professional careers appear to be on the line. I urge you to follow the news closely and to contact your elected officials personally or through professional or environmental interest groups. One source of current information is on the Inter-net through the environmentalist network.

We seem to have forgotten Santayana's (1906) warning that "Those who cannot remember the past are condemned to repeat it."

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BICYCLING AND WALKING: LINKING TRANSPORTATION AND RECREATION IN NEW YORK STATE

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The linkage between bicycling and walking as both transportation and recreation is important for parks, recreation and transportation professionals. This paper highlights efforts by three New York State agencies to develop innovative new bicycle and pedestrian programs, and presents survey data which suggests increased support for these modes of travel.

Introduction: Linking Transportation and Recreation in New York State

Bicycling and walking are important forms of transportation and recreation in New York State. More than 7% of New York State's commuters bicycle or walk to work (US Census,1990) and according to the 1994 *New York Statewide Trails Plan*, bicycling and walking are among the top recreational activities statewide. The passage of the federal Intermodal Surface Transportation Efficiency Act (ISTEA) in 1991 and the subsequent establishment of the Statewide Bicycle and Pedestrian Program at the New York State Department of Transportation (NYSDOT) in 1993 have led to increased potential for improving mobility and safety for bicyclists and pedestrians in New York State. At the federal level, the U.S. Department of Transportation (USDOT) has produced a vital document called the 1993 *National Bicycling and Walking Study* which calls for achieving two significant new national goals: 1)Doubling the amount of travel by bicycling and walking and 2)making these modes of travel 10% safer. In addition, USDOT has issued guidelines (Federal Highway Administration: Federal Register Docket No 95-3) for the development of bicycle and pedestrian plans for each metropolitan area as an integral part of the transportation planning process. These guidelines make it clear that, by definition, bicycle and pedestrian trips should be considered as transportation as long as these trips "connect two destinations." In other works, if a person walks to a park, that is a transportation trip, just the same as a person driving a car to the beach is a transportation trip. By the same definition, a loop trail within a park would be defined as a recreational facility. This is an important distinction in terms of funding - most ISTEA categories require that a facility demonstrate its transportation function in order to be eligible for federal funds - and it is also significant for linking the validity of bicycling and walking as transportation options which are also enjoyable forms of recreation, tourism and leisure travel.

In New York State, there are 12 metropolitan areas with populations larger than 50,000 people, and each of these areas has an existing Metropolitan Planning Organization (MPO) which is responsible for developing bicycle and pedestrian plans consistent with the federal guidelines. In addition, ISTEA requires the creation of a Statewide Transportation Plan which incorporates a Bicycle and Pedestrian element. The development of MPO and Statewide Bicycle and Pedestrian planning efforts provides the state and its varied communities with a unique opportunity to cooperatively establish the infrastructure and programs needed to improve bicycle and pedestrian mobility and safety. This effort includes the development of roadway improvements, greenways, trails, public transportation accessibility, bike lanes, sidewalks and paths which connect logical origins and destinations for bicycle and pedestrian travel. There are many existing and developing efforts which predate ISTEA in New York State upon which these efforts can and will capitalize. The Statewide Bicycle and Pedestrian Program has worked from its inception in 1993 to involve all levels of government and interest groups in the public and private sector to cooperatively create engineering, enforcement, education and encouragement efforts which will benefit the people of the state. NYSDOT and the Governor's Traffic Safety Committee have established a Statewide Bicycle and Pedestrian Advisory Council to facilitate this effort.

Since most bicycling and walking for utilitarian transportation involves trips of less than five miles, and since an estimated half of all trips by single occupant motor vehicle (SOV) in the U.S. are for less than five miles, a significant "market" potential exists for increasing the use of these modes. In addition, survey data indicates that bicycling and walking are increaingly important forms of recreaton and exercise, so there is also key role for park and tourism related infrastructure in the state as well. As a result, The *New York Statewide Trails Plan* (an element of the State Comprehensive Outdoor Recreation Plan (SCORP)) and the New York State Canal Recreationway Master Plan are two of the key elements invlved in the development of the state's bicycle and pedestrian program. As part of a coordinated, interagency approach, NYSDOT, the NY State Canal Recreationway Corportation and the Office of Parks Recreation and Historic Preservation (OPRHP) are working together to establish one of the nation's premier corridors for non-motorized transportation. This system, stretching from the Great Lakes to the Hudson River valley, includes more than 4.1 million residents along its 375 mile length, including upstate New York's 5 largest urban

areas: Buffalo, Rochester, Syracuse, Utica-Rome and the Albany-Capital Region. By working together, NYSDOT, OPRHP and the Canalway Corporation, along with other partners in local government, the private sector and state agencies are beginning to see a coordinated system of on-and off road bicycle/pedestrian facilities which connect local communities, recreation areas, public transportation and the programs which support all of these efforts. The following sections of this document highlight these cooperative efforts to link transportation and recreation, and provides some of the data which supports the ongoing development of these programs.

The New York State Canal Recreationway Plan

If he were alive today, Governor Dewitt Clinton would no doubt be surprised at what is happening with the New York State Canal System. For a renaissance is now underway that promises to restore the canal to its earlier position of national prominence. Once a major factor in the development of New York State, and indeed the nation, the canals fell into a gradual state of decline with the advent of rail and truck transport. However, the New York's canals once again promise to be a vehicle for economic development for the state. The canals' new life will focus around their historic and recreational significance. The canals will become a destination that people from around the world will want to visit and explore.

The purpose of this text is to describe the progress that is being made toward this reawakening. The Canal Recreationway planning effort, and in particular, the Canalway Trail initiative, which will parallel the entire Canal System - The Erie, Champlain, Cayuga-Seneca and Oswego Canals will be discussed. The importance of partnerships and linkages in the development of the Recreationway will be emphasized

The Canal Recreationway Plan

The rediscovery of New York's Canals is primarily the result of a major planning effort that is being progressed by the New York State Canal Recreationway Commission. Work on the Canal Recreationway Plan began in 1993, as specified in state legislation (NYS Assembly Bill 121388 A) that transferred control of the canal system to the Thruway Authority. The New York firm of Beyer, Blinder, Belle was selected to develop the plan, which will incorporate canal inventory from the seven regional planning entities contiguous to the canal. An intensive outreach effort has been made to ensure that the views of the public are incorporated into the plan. Besides conducting periodic focus groups, more than 100 meetings were held with the public during the Summer of 1994 to solicit feedback on the policy recommendations developed by the Canal Commission. There will also be an opportunity for public review of the draft plan, scheduled to be released in June 1995. The Canal Recreationway Plan will provide a blueprint for future canal development. The goals of the Plan are to preserve the best of the past, enhance recreational opportunities, and foster appropriate and sustainable development. The Plan will contain recommendations for a number of projects in communities all along the canals, including seven major harbor projects at canal gateways, and nearly 100 canal ports and locks projects. Each will provide facilities for boaters and landside users.

The Canalway Trail

The Canalway Trail initiative was launched in 1993. Like construction of the original Erie Canal, it is one of the most ambitious projects of its kind in the US and indeed the world. The goal of the trail program is to develop a system of multi-use trails parallel to New York's canals - a total of 524 miles long. The trail will provide a way for those who do not boat to enjoy the beauty and history of the canals. The system will include both urban and rural trails serving a diversity of users and populations.

Some portions of the trail currently exist. Many were developed by NYSDOT and local community groups in the years prior to the 1993 Canal Recreationway legislation. The trail will be completed by filling the gaps in the system and constructing new trails where needed, as well as providing on-road linkages using wide road shoulders where separate rights of way do not exist. The Canalway Trail system should be completed over time through a series of partnerships between the Canal Corporation and local governments, not-for profit organizations, the New York State Office of Parks, Recreation and Historic Preservation, the New York State Department of Transportation, the New York State Department of Environmental Conservation, and the National Park Service.

In 1994 - the first year of construction - more than 40 miles of trail were developed in five different areas of the state. Glens Falls, Canajoharie, Rome, Pittsford and Medina. In addition, NYSDOT established an across the state on-road bike route designated as "Bike Route 5" from the Capital Region to Niagara Falls. This route provides interim on-road connections for bicyclists travelling the canal corridor. In 1995 , another 15 miles will be constructed in Fultonville and Greece, and NYSDOT will provide signage along the Champlain Canal as part of the development of "Bike Route 9" which will be signed from New York City to Montreal. In the long term, the on-road bike routes will allow experienced, faster travelling bicyclists to "share the road" with motor vehicles, while multi-use trail constituents travel at a slower pace along the off-road Canalway Trail

Many of the partnerships mentioned above have already been formed. For example, the initial trail program was developed by an interagency working group consisting of representatives from the New York State Canal Corporation, the New York State Office of Parks, Recreation and Historic Preservation, The NYS Department of Transportation, the New York State Department of Environmental Conservation, and the National Park Service. The working group prioritized which sections to construct and developed trail design standards. New York State agencies have developed existing portions of the trail system and they have provided rights of way for new trail construction. For example, the NYS Office of Parks, Recreation and Historic Preservation has made available over 30 miles of abandoned rail right of way in the Mohawk Valley for Canalway Trail development, and the New York State Department of

Transportation is incorporating trail construction into several Mohawk Valley roadway projects.

The Old Erie Canal State Park, which is managed by OPRHP, will also become part of the statewide system. That linear park is more than thirty miles long. Similarly, at the local level, many communities have developed trails along the canal that will become part of the statewide system. These include the Mohawk Hudson Bikeway (built by NYSDOT in the 1970's and subsequently maintained by local communities) and the Town of Amherst trail. Equally exciting are the partnerships that are being formed with non profit organizations along the canal. Organizations dedicated to completing the Canalway Trail in specific regions are playing an important role in our overall program. These activities range from providing information and assistance to our trail planners and designers to actual trail development and enhancements, such as the interpretive signing that was provided along the Glens Falls Feeder Canal last year by the local Feeder Canal Alliance. The Canal Recreationway Commission will cultivate the volunteer interest along the canal with the intention of eventually establishing a statewide Friends of the Canalway Trail group.

The Canalway Trail will provide important linkages to several major statewide and national trails including the Seaway Trail, the Genesee Valley Greenway, the North Country Trail, the Long Path, the Hudson River Valley Greenway Trail and Lake Champlain Bikeways. These connections will facilitate the creation of a network of greenway trails throughout the state, as called for in both the State Open Space Plan and the State Comprehensive Recreation Plan. The Canalway Trail will also provide opportunities for linkages with several state parks and historic sites such as the Herkimer Home, Schoharie Crossing, the Old Erie Canal State Park, and eight Urban Cultural Parks, which are part of the state's Heritage Areas Program. The Canalway Trail will also pass nearby the Saratoga National Historic Park, the Women's Rights National Historic Park and the Montezuma National Wildlife Refuge. Additionally, the trail will be integrated into the canal harbor and ports and locks projects that will be recommended in the Canal Recreationway Plan.

For too long now, insufficient thought has been given to how trails greenway trails connect with communities or with other parks and recreational facilities. Trailheads are often located in areas that are difficult to reach by foot or bicycle, or they are difficult to find because of poor signage and limited connections to local streets and neighborhoods. At a time when we are attempting to reduce congestion and auto emissions, one should not have to feel that the only safe way to access a park , trail or town center is by automobile. The recently developed Canalway Trail segment between the towns of Canajoharie and Fort Plain in the Mohawk Valley is a good example of the appropriately linking transportation. This four mile long multi-use path directly links the two town centers, and is already being used by children, adults and seniors to walk, bike, in line skate and travel between the two communities. The project parallels the existing Bike Route 5 corridor, which has wide shoulders to accommodate faster bicyclists, and the trail is influencing re-development of the town centers. In Fort Plain, NYSDOT has reconstructed the Main Street to include historic lighting, granite curbs, improved pedestrian crosswalks, and even the paving of paths in the town park using old cobblestones removed during construction. In Canajoharie, similar efforts are underway as part of the location of a new bank building in a parking lot along the trail right-of-way in the center of town.

Careful thought must be given to planning and developing these linkages. For example, the new harbors and ports along the canal will be hubs of activity, where boaters, trail users and canal visitors converge. Support services and interpretive information will be provided at these locations. Trail connections to these facilities must be provided. At park sites, we must be particularly sensitive to the concerns of park managers and the activities that are taking place. At the Herkimer Home, for example, managers of the facility are concerned about the proximity of the proposed trail alignment, an old rail bed, to the home itself. They have suggested the alignment be altered somewhat to accommodate this concern. A particularly sensitive area is the Montezuma Wildlife Refuge where concerns about the impact of the trail on the wildlife is a concern to the refuge's managers. Resolving these problems will be possible if we work together cooperatively. In summary, this is a particularly interesting time in the United States as we are slowly rediscovering the impact that sense of place has on the quality of our lives. But as we set out to reconnect with our past and to nature, we must also think about connections - in the partnerships we form and between the facilities we build and manage. If we do so, we will develop a system of greenways and parks, linked to communities, that will be accessible to all of our citizens for years to come.

The 1994 OPRHP Bicycling Survey

Survey Purpose and Scope: As more people use bicycling and walking as alternatives to the automobile, what are the implications for park managers, researchers and academics? This survey provides a baseline of data regarding New York State Parks Managers' issues and opportunity for improving bicycling as a mode of transportation and recreation as part of the State Parks system.

1. Conducted of all state park and historic site managers at the end of the 1994 summer operating season.
    a. all but one region (NYC) participated
    b. about 113 parks and sites / 185 (61%)
2. Purpose was to develop a basis for guidelines to better manage on-road and off-road bicycling within the State Park system.
3. Bicycling has been identified as a major concern, and will become a regulated activity.
    a. Subject to OPRHP rules and regs
    b. being driven by off-road mountain bike issues
4. Survey was done to provide benchmark information on the current status of bicycling

activities, and to identify concerns regarding this activity.

Usage

1. The 1990 Census: Bicycle and pedestrian modes of travel account for 6% of NYS commuter trips.
2. What's happening in the NYS Park System?
   a. Basis of 1994 Survey
   b. Since 1970, annual attendance at state parks and historic sites has increased by about 35%
   c. Total attendance now at record level: 63,000,000
   d. Favorite activities of visitors (State Trails Plan)
      - Hiking 81%
      - Biking 34%
      - Survey: 1 million bicycles / year
3. How has bicycle use changed in the past 5 years?
   a. 74/103 (72%) report some or considerable increases
   b. mostly individual riders and small groups
   c. also commercial tours, races and rallies (98, of which 25 received permits)
4. How do bicycles arrive at the facility?
   a. 20 - 25% from adjacent roads and streets
   b. 25-30% transported in by car
   c. 5-10 % ride-through as part of longer tour/trip
   d. Camper's recreational use activity: 50-60%
   e. Intermodal (bus): Bear Mountain S.P. / Palisades: 5%
5. Where are bicycles being used?
   a. 93% on paved roads
   b. 75% on service roads
   c. 70% on hiking paths
   d. also paved bike paths, carriage roads

Off-Road Bicycling Concerns

1. Selected state parks usage
   a. Minnewaska -- 95%
   b. Jones Beach -- 1%
   c. Chenango Valley -- 40%
   d. Saratoga Spa -- 25%
2. Green Lakes State Park
   a. 70% before banned
   b. 10% after ban
3. Has there been creation of unofficial trails through woods, shrub areas or wetlands?
   a. yes 33
   b. no 42
   c. N/A 28
4. Has there been erosion of trails?
   a. yes 20
   b. no 28
   c. N/A 52

General Bicycle Conflicts / Concerns

1. Have you identified trail-use conflicts?
   a. motor vehicle vs. bike - 35 parks / sites
   b. pedestrian vs. bike - 52
   c. bike vs. runner - 27
   d. bike vs. bike - 19
2. Number of lawsuits following problems on bikeways. 6

Implications for Park Management

1. Safety
   a. No. of Bicycle related accidents reported in 1992 and 1993 combined. 260 (1 death, 62 head injuries)
      -118 on park roads
      -62 on trail
      -38 at campsite
      -6 on designated bike path
   b. Does the park distribute bike safety information?
      29 yes 75 no
   c. Do park police or park staff conduct bicycle safety programs?
      18 yes 84 no
   d. Does the park have emergency procedures for inaccessible areas?
      19 yes 45 no
2. Enforcement
   a. Do you feel there is a need to limit or restrict bicycle use at your facility now?
      43 yes 54 no
   b. Are bikeways patrolled and inspected regularly?
      29 yes 32 no
3. Do you have any PARTNERSHIPS with bicycle trail groups to assist with trail maintenance, sponsor events, etc.?
   13 yes 57 no
4. Facilities
   a. Does your facility have a marked or signed bikeway?
      10 yes 94 no
   b. Do park roads have a 4-ft. minimum paved shoulder?
      7 yes 94 no
   c. Do state or local highways leading to the entranceways have paved shoulders 4 ft. or more in width?
      38 yes 65 no
   d. In your opinion, what is the general condition of facility roadways for bicycle users?
      - good 27
      - fair 35
      - poor 34
   e. Do you feel that more capital/rehab funds are needed at your facility to facilitate bicycle use in the future?
      63 yes 38 no

f. Are there trails in your facility that have been designated or constructed specifically for off-road bicycling?

1 yes 101 no

g. Does your facility provide bike racks or other means to park and/or secure bicycles?

65 yes 38 no (of which 20 say they are needed)

5. Information: Does your facility provide maps for bicycle use and access?

21 yes 84 no

6. Environmental: Has there been any environmental monitoring of the effects of off-road bicycling on the environment?

22 yes 20 no 61 N/A

7. What resources do you devote to bicycles in:

a. enforcement of rules and regulation?

$ 5,250 OTPS

3,900 staff hours

b. bikeway maintenance?

8,600 staff hours

Discussion

The information presented in this paper has considerable importance to parks, recreation and transportation professionals. Bicycling and walking are among the most energy efficient, environmentally beneficial, healthy and enjoyable forms of mobility. These modes of travel are already popular both for transportation and recreation. There are considerable potential benefits to the state and our communities if more people walk and bike, and if these modes are made safer and more accessible. Key issues regarding maintenance, liability, multi-use conflicts and the other issues that attract a great deal of attention in regards to bicycling and walking can be resolved and have been resolved for automobile travel. At a time when budgets for infrastructure and programs are increasingly limited, bicycling and walking are cost-effective solutions which can be both timely and useful. If, for example, more people can safely walk or bike to a state park, it might be possible to reduce the size and maintenance requirements of large parking lots and roads. However, these kinds of solutions require careful coordination and balancing of the appropriate improvements and their relative costs and benefits. The range of options includes both on and off-road solutions, including the construction of multi-use paths, installing bike racks, re-striping roadways, building shoulders and sidewalks. It is important for professionals to consider all of these elements as part of system of solutions, just as a complete system already exists for moving automobile traffic in and out of parks and public places.

The opportunity exists for parks and recreation professionals to form new partnerships with transportation through the increased linkages provided by bicycling and walking. As each MPO and region develops its transportation program, cost effective bicycle and pedestrian improvements for mobility and safety can make parks more accessible and increase the opportunity for the public to enjoy these forms of travel. Often, this involves simply thinking about the possibilities to improve bicycling and walking as part of the development of routine infrastructure and programs. When a road is rebuilt, striping patterns for crosswalks and bike lanes can often be added at very little cost. When a parking area is repaved, adding a few "bicycle parking" spaces in place of a couple of car parking spaces can provide increased parking without extra land or funding - 15 bicycles can be parked in the same space as a single car. Linear parks, greenways and urban cultural parks can provide new constituencies and types of facilities for a growing constituencies of parks "customers." However, the kind of thinking which generates these types of solutions is not common. In most cases, communities and planning professionals continue spending patterns which primarily provide for a system of transportation which does not integrate bicycling and walking as primary transportation choices. ISTEA in many ways has facilitated significant changes in allowing communities to make balanced infrastructure choices, but the balance still favors motor vehicle travel. Additional research, data collection and program development is needed to support the opportunity for New York to capitalize on bicycling and walking. Since bicycling and walking are already such important modes of transportation and recreation in New York State, the ongoing cooperation of state and local government with the public and private sector will play an important role in continuing to improving these conditions.

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POSTER SESSION

PARKS AS NEIGHBORS: THE EXPERIENCE OF LIVING IN AND AROUND CAPE COD NATIONAL SEASHORE

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It is clear that parks and wilderness are affected by surrounding private lands. But, do parks and wilderness also affect surrounding lands and their owners? The objective of this study is to explore the answer to this question. Private landowners adjacent to Cape Cod National Seashore were surveyed about their perception of the effects of the Seashore on their lives and their communities. A number of effects were identified. While most were perceived as positive, several were felt to be slightly-to-moderately negative. It is suggested that park and wilderness managers will increasingly need to reach out beyond the borders of their areas to deal effectively with external threats emanating from surrounding lands. However, they are likely to be more effective in the process if they are aware of and sensitive to effects they in turn have on surrounding communities.

Introduction

Many parks have become islands of nature in a sea of civilization. Development of land around parks has given rise to a variety of park management issues, including air and water pollution, limited range for animal populations, increasing demand for recreation opportunities, and incompatible development along park boundaries. These and related issues -- often called "external threats" -- are reaching crisis proportions in many parks.

However, another side of these issues is beginning to emerge Just as parks and park management can be affected by surrounding lands, so too can surrounding lands be affected by parks. Parks often draw thousands or even millions of visitors annually and public ownership of land can have important economic and other implications to communities This study was designed to explore how the presence of a national park is perceived to affect local residents and their communities.

The study focused on Cape Cod National Seashore and surrounding communities. Cape Cod National Seashore is a major unit of the national park system and is located within six towns on outer Cape Cod. The park boundary is highly irregular resulting in a complex landownership pattern highlighted by substantial intermixture of public and private land. There are also in-holdings of privately owned properties which are completely surrounded by public land. The park is heavily visited in the summer and fall seasons.

Methods

The principal objective of the study was to determine the effects of the National Seashore on surrounding areas as perceived by local residents. A standardized questionnaire was administered by mail to a two and one half percent systematic random sample of residential property owners in the six towns comprising the National Seashore. Sampling was conducted using the property tax records of the six towns. Respondents were asked to rate the degree which the National Seashore positively or negatively affected a battery of forty items related to personal and community life. A response rate of 65 percent was attained yielding 608 completed questionnaires.

Findings

In general, residents in and around Cape Cod National Seashore felt that the park has an overall positive effect on their communities. The battery of forty items was divided into five broad categories for ease of presentation. Figure 1 shows the perceived effect of Cape Cod National Seashore on social and cultural variables. As the figure shows, respondents felt that all of these variables were affected by Cape Cod National Seashore in a positive way. The variables with the strongest perceived positive effect were the change in values, norms and customs of residents and the understanding of other cultures and people that the park provides. Additionally, respondents also felt the park had a slightly positive effect on population density, the local unemployment rate and the number of welfare recipients. Respondents also felt the park had a nominally positive effect on rates of crime, vandalism, alcoholism and drug abuse

Figure 2 shows that residents who live in and around Cape Cod National Seashore felt that the presence of the National Seashore has a positive effect on natural resource and environmental variables. The variable with the most positive response was the quality of natural features in and around Cape Cod National Seashore. On average, residents felt that the park had a positive effect on air quality, water quality, and the quantity of water available. Additionally, residents felt that Cape Cod National Seashore had a mild positive effect on two social variables associated with the environment, the amount of noise and the amount of litter

Respondents were also asked what effect they thought Cape Cod National Seashore had on public services in their communities. Figure 3 shows that, in general, the perceived effect was positive in nature. On average, respondents felt that

Cape Cod National Seashore affected the quality of public education, fire protection services, police services and other public services in a slightly to moderately positive direction. However, residents felt that the National Seashore had a slightly negative effect on the availability of land for public services.

Figure 4 shows how respondents felt the presence of Cape Cod National Seashore affected their quality of life. Several measures of quality of life were used, including a summary variable which asked respondents to indicate how they thought Cape Cod National Seashore affects their general quality of life. Response to this summary variable was moderately to strongly positive. Additionally, respondents perceived a positive effect on most of the specific quality of life measures. Respondents perceived the availability of recreational opportunities to be very positively affected by Cape Cod National Seashore. Additionally, respondents perceived the presence of the National Seashore to positively affect the availability of cultural activities, the quality of fishing, the quality of hunting, shopping opportunities, privacy and road conditions. However, the presence of Cape Cod National Seashore was perceived by residents to have a slightly to moderately negative effect on the availability of land for housing and traffic conditions.

Finally, respondents were asked to indicate whether the presence of Cape Cod National Seashore had positive or negative effects on several economic variables. Once again, on most of the variables, the perceived effect of the National Seashore was positive. Residents felt that the presence of the National Seashore had positive effects on the amount of tourism, the quality of tourism, the standard of living, job opportunities, income of area residents, the quality of commercial fishing and agriculture. However, residents felt that the presence of Cape Cod National Seashore increases the prices of goods and services, increases the cost of housing and increases property tax rates, all negative effects

Discussion and Conclusions

It is clear from the results of this study that respondents felt that the presence of Cape Cod National Seashore affects them in a multitude of ways. On average, respondents perceived a negative effect of the National Seashore on only 6 of the 40 items. This indicates that, overall, the National Seashore is a good neighbor. The items that had the highest negative ratings included the National Seashore's effects on traffic conditions, the cost of land and housing, and the property tax rate. The perceived negative effect on traffic conditions is probably due to the very large number of visitors who are drawn to the National Seashore each year. The perceived negative effect on the cost of land and housing is probably due to the fact that a large percentage of the land in the six towns studied is incorporated within the National Seashore. This land is not available for residential development. This may also be the cause of the perceived negative effect of the National Seashore on the property tax rate. Land that is included within the National Seashore is removed from the tax rolls of the local towns.

The majority of items explored in the study were perceived to be slightly-to-strongly positively affected by Cape Cod National Seashore. Most residents appreciate the recreational, economic, and cultural benefits brought to the area by the large infusion of park visitors and activities available for these visitors. Additionally, most residents recognize the environmental benefits of the National Seashore. There is also an apparent belief that the presence of a major unit of the National Park Service can enhance traditional local government services like fire and police protection.

Findings from this study indicate that parks can be good neighbors. However, two notes of caution are in order. First, these findings are the **perceived effects** of Cape Cod National Seashore on local residents. The actual effects may be quite different, at least for some items. Second, although most items explored in the study were perceived as positively affected by the National Seashore, a number of items were perceived as negatively affected. Park managers should attend to these issues. Negative perceptions should be corrected where they are believed to be in error, or actions should be taken to ameliorate these negative effects when possible.

Finally, as the interconnectedness of public and private lands is more widely recognized, it will be necessary for managers of public lands to reach out beyond their borders to deal successfully with "external threats." They are likely to be more effective in this process if they are aware of and sensitive to effects they in turn have on surrounding communities.

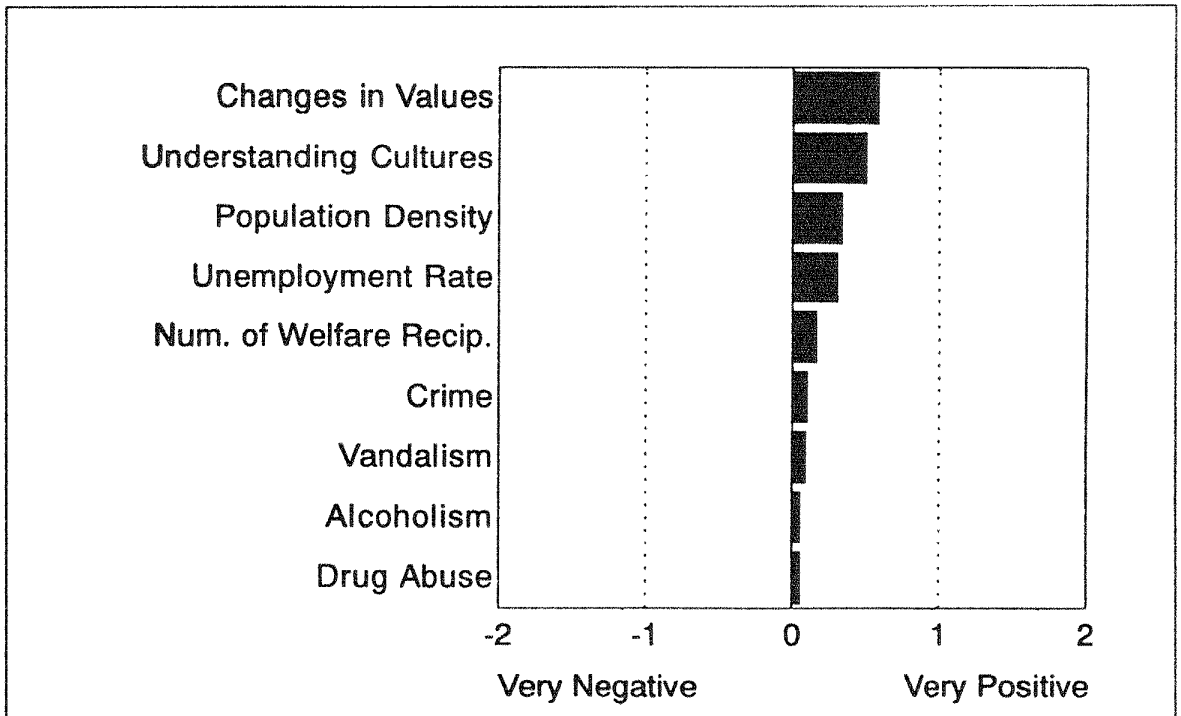

Figure 1. Perceived effects of Cape Cod National Seashore on social and cultural variables.

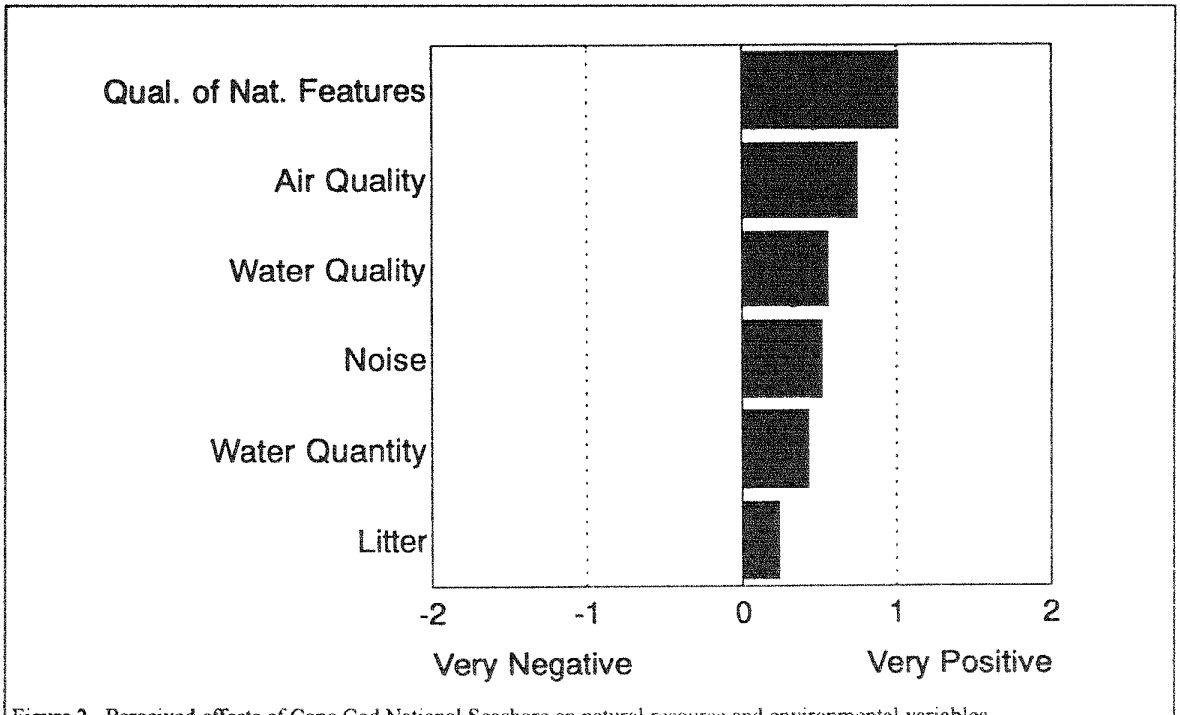

Figure 2 Perceived effects of Cape Cod National Seashore on natural resource and environmental variables.

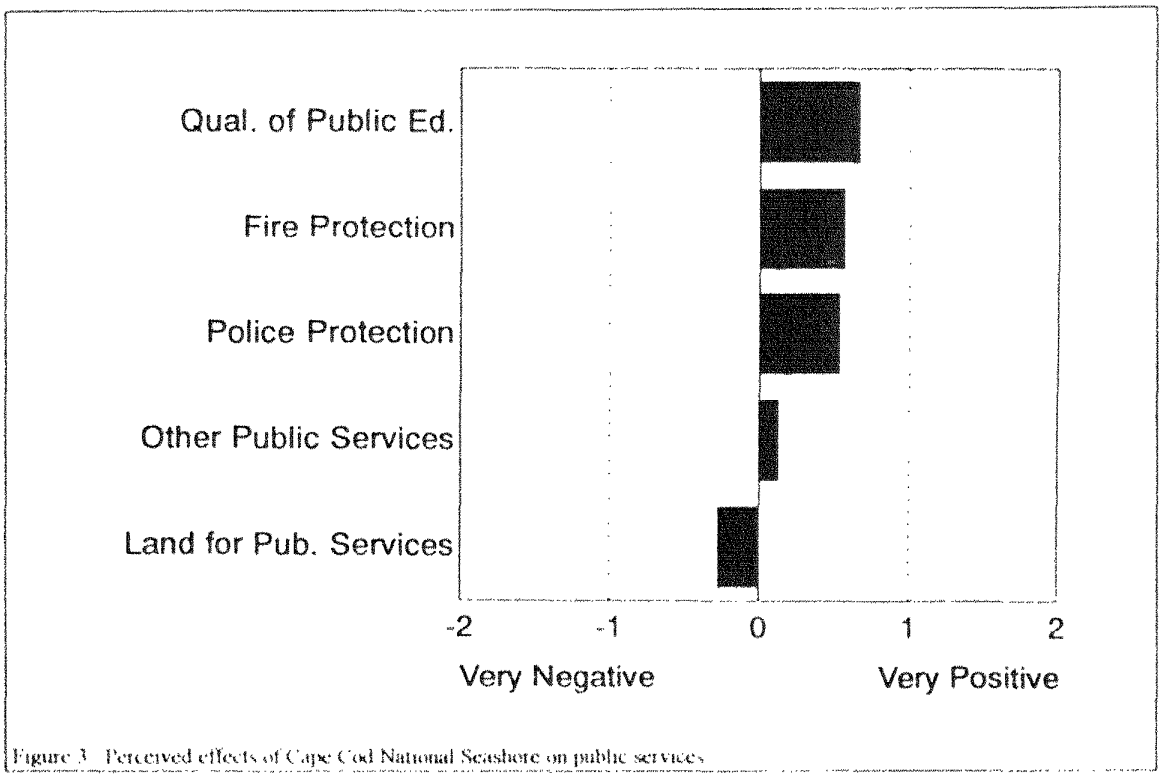

Figure 3 Perceived effects of Cape Cod National Seashore on public services

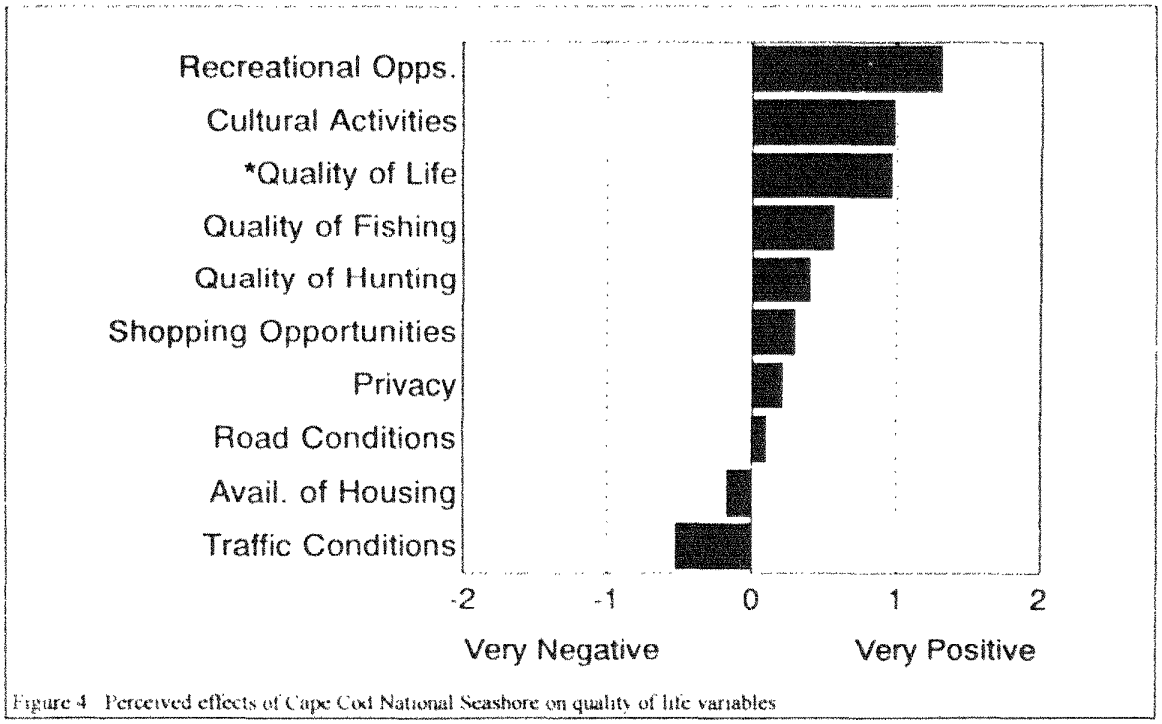

Figure 4 Perceived effects of Cape Cod National Seashore on quality of life variables

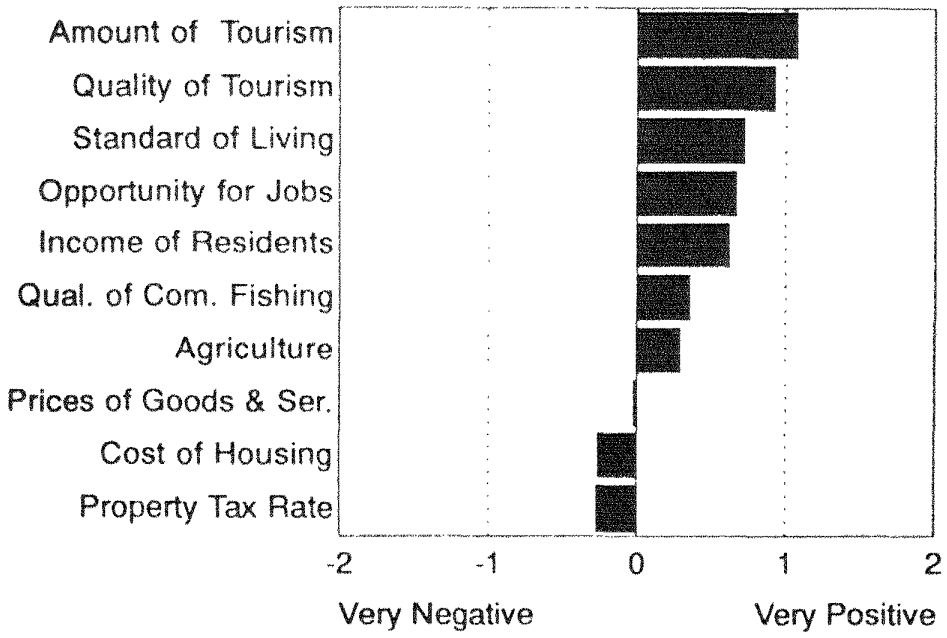

Figure 5 Perceived effects of Cape Cod National Seashore on economic variables

A NECKLACE PARK PLAN FOR HISTORIC HOLYOKE, MASSACHUSETTS

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The purpose of this study is to develop a necklace park plan composed of a three trail system for Holyoke, Massachusetts The objectives of the plan are to: preserve remaining park areas, including several designed by Frederick Law Olmstead; create recreational opportunities for residents and surrounding communities; and link the parks together into a necklace trail system connecting recreational and historic preservation attributes.

Introduction

The city of Holyoke, located in the Connecticut River Valley of western Massachusetts, was the first planned industrial city in the United States. Once referred to as "The Paper City of the World" and "The Queen of American Manufacturing Cities," Holyoke has changed from a thriving mill city to a city in dire need of revitalization. Due to the recession and the movement of industry to the southern piedmont, the city of Holyoke today is struggling with high business vacancy and unemployment rates, as well as blighted neighborhoods and decreasing recreational opportunities. This study deals with upgrading parks and creating recreational opportunities.

Each part of the three system Necklace Park Plan for Holyoke focuses on a specific attribute of the city. The first trail system focuses on the preservation and restoration of the existing park areas along the Connecticut River and canals located in the downtown area. The emphasis here is on creating recreational opportunities for the residents of Holyoke and the surrounding communities. Several of these parks along the river were designed by the first American landscape architect, Frederick Law Olmstead. Olmstead designed such well known parks as the Boston Commons and the Emerald Necklace Park System in Boston, as well as Central Park in New York City.

The second system focuses on the preservation of the historic sites of Holyoke. The city has many historic churches and buildings, and several cultural sites of historic significance. The implementation of an historic walk highlighting these resources would provide residents and visitors with a new perspective of the city. Along with attracting tourists, park improvements would enhance business and commercial development.

The third system focuses on the design of a wilderness trail running through the Holyoke Mountain Range, located in the northern part of the city. The Wilderness Trail connects Community Field, an urban park, with the hiking trails of Holyoke Community College, Mount Tom Reservation, and the Metacomet and Manadnock Trail (M & M Trail). This trail would serve to provide recreational wilderness activities in addition to the urban parks that already exist within the city.

Overall, the intent of the Necklace Park Plan is to create three distinct trails, as well as links between the trails. For this reason, connections between the canal walk, historic walk and wilderness trail are emphasized. The conceptual drawings for the park plan specifically show ways to integrate each trail with each other and with the entire trail system.

Methodological Issues

The methodology involved in this study included data gathering in the primary areas of physical geography, economic feasibility of acquisition and conservation, and historic value. The physical geographic attributes identified for site analysis included; soil types, topography, landform, and water resources. Natural resource inventory maps of the riparian watershed and reservoirs were produced. The maps were analyzed to determine the most appropriate sites for the trail system.

An inventory of maps was generated to identify open space parcels of environmental concern. These data were especially relevant in the design of the wilderness trails and the Connecticut River and canal walk. Identification and classification of recreational parcels was conducted in order to develop an updated recreational plan for the city. A condition survey and needs assessment was also conducted in order to determine areas of severe blight.

The economic feasibility of acquisition or deed restrictions for designated parcels on the wilderness trail was determined by compiling assessor's data. The data include acreage and ownership of the parcels sited for the trail. In each case it was determined whether it was feasible to acquire or conserve the parcel. Also, a site analysis study was conducted. Site field work for this study included analysis of map overlays of natural resources, location of utilities, and other support systems for each parcel. These overlays were superimposed to identify and protect any fragile environmental areas. These environmental areas of concern should not be included in the hiking trails or recreational areas.

The Holyoke Necklace Park Plan also includes an inventory of the farmland (Chapter 61A) and forest parcels (Chapter 61B) that have deed restrictions on development. A review of the Federal Register of Historic Properties was conducted in order to identify the primary sites for the historic walk. The local Historic District Commission was contacted in order to develop a list of recommendations for building improvements and tax credits for eligible sites.

Park Proposals

The Holyoke Necklace Park Plan includes: the River Canal Walk, the Holyoke Historic Walking and Driving Trail, and the Wilderness Trail. The plan is based on the Emerald Necklace Park Plan designed for Boston by Frederick Law Olmstead in the mid 1800s.

The River Canal Walk

The first trail, the River Canal Walk, includes all four and a half miles of the canals. Log Pond Cove, used in the late 1800s as a log storage pond on the way to the mills, is also part of the canal system. The trail incorporates a dam and a three level canal system which was used in the past to create hydro-power. This section of the river has a long history of dam construction. The first dam on this site was completed on November 16, 1848, only to be washed away the same day. The second dam was completed in 1849 and lasted until a stone dam was built in 1900. The third dam, known as the "Million Dollar Dam," still stands today.

The River Canal Walk begins in the northern end of the downtown area at Heritage Park, which includes the Children's Museum, the Holyoke Merry-Go-Round, the Heritage Park Railroad, and the Volleyball Hall of Fame. From Heritage Park, the trail follows the canals to the confluence of the canals with the river. Geographically, this marks a suitable endpoint for the canal walk. There is greater access to transportation and other support services at this point than at other parts of the walk. This walk passes through many parks along the Connecticut River, including Pulaski Park and Feldman Park designed by Olmstead. The trail also passes through parks located in the downtown area along the canals.

The Holyoke Historic Walk and Drive

The starting point for the Historic Trail is Heritage Park in downtown Holyoke. From Heritage Park, the trail continues north through the downtown area. The first historic site is St. Jerome's Rectory, the seat of Irish authority in Holyoke in the late nineteenth into the early twentieth century. Other religious buildings on the trail include; St. Jerome's Institute, St. Vincent de Paul Convent, Holy Cross Church, Sacred Heart Church and Rectory, and the Second Congregational Church.

Residences of significant architectural interest on the Historic Trail include; the Michael Finn House, the Frank Towne House, the Casper Ranger House, the Dennis Landers House, and the William F. Whiting House. The architectural style of the houses are Queen Anne, Tudor, Craftsman, and Shingle style. Several of the houses are noted for cultural significance, as well as typical and scarce architectural styles.

Two other significant historic sites include Hall's Dairy and Wistariahurst Museum. Hall's Dairy is one of the few Colonial Revival buildings constructed in the Oakdale section of Holyoke for commercial business. The Wistariahurst Museum, which was originally a mill located in Haydenville, MA, was moved to Holyoke in 1874 by the owner, William Skinner. The relocation and activation of this mill was a catalyst for the Industrial Revolution in Holyoke. Housing a conservatory and music hall with the Belle Skinner collection of vintage musical instruments, the Wistariahurst was later remodeled by the renowned American Architect, Clarence Luce.

The Wilderness Trail

The third system of the Holyoke Necklace Park Plan is the Wilderness Trail. This trail connects the northwest corner of the centrally located Community Field with the Holyoke Community College Trail System. From there, the trail connects with McLean and Ashley Reservoirs and the M & M Trail which, in turn, connects with the Mount Tom State Reservation.

Diverse natural habitats abound on the trail system. Northern hardwood forest, exposed basalt ledges, and wooded swamps are the most common habitats found in this bioregion. In the immediate area there are two rare plants, the yellow lady slipper and the climbing fern. One endangered plant, the small whorled pogonia, is also found in the area.
The Wilderness Trail System provides beautiful vistas. Looking to the west are spectacular views of the Berkshires and rural landscapes. To the east are panoramic views of Holyoke and the Connecticut River Valley. The Wilderness Trail provides the people of Holyoke with an opportunity to escape the urban environment of the downtown area and, by connecting with the M & M Trail, opens up Connecticut and New Hampshire for wilderness exploration.

Plan Recommendations

In order to implement the Necklace Park Plan effectively, efforts must come from all levels of government, as well as the private sector. Implementation of the plan should follow these comprehensive steps:

- The city of Holyoke Planning Department should research available grants and funding for which the city qualifies for the park plan. The Planning Department should oversee grantwriting procedures by the appropriate environmental, historic preservation or conservation groups.

- The Department of Environmental Management (DEM), the city of Holyoke Planning Department and the Department of Public Works should coordinate the efforts to clean-up and restore the parks, trails and waterways of the city. Volunteers for the upgrading and maintenance of trails should be solicited from environmental groups and the business and private sectors.

- The Historical Society of Holyoke should focus on the Historical Trail as an educational tool for the youth of the community; as youth involvement fosters pride and respect for the community

- supervisory board, made up of members from the DEM, the city of Holyoke, the Mount Tom State Reservation Committee, Holyoke Community College, private groups and environmental organizations should oversee the implementation of the Wilderness Trail. Creation, marking, and long term maintenance should be coordinated by the above groups.

- An advisory board should be created to organize recreational and park activities for Holyoke and regional residents. The board could consist of members from the YMCA/YWCA, church groups, schools, and other community groups.

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INTERPRETING NEW YORK'S EASTERN LAKE ONTARIO SAND DUNES AND WETLANDS

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An interpretive project has been developed by NY Sea Grant to educate and influence visitors to four state-owned properties on the eastern shore of New York's Lake Ontario. The sand dunes and wetlands in this area are showing signs of overuse by visitors. Thematic interpretation, including an area guidebook, signs and kiosks, has been developed to alleviate some of the stress to this fragile ecosystem. The planning process and implications of this project are discussed.

Introduction

During the summer of 1994 and the winter of 1995, New York Sea Grant developed a plan of recommended interpretation for the sand dune and wetland area on the eastern shore of Lake Ontario (Earnest 1995). The project was conceived as: 1) a project which could be implemented over time and by various organizations and agencies, and; 2) as a demonstration project for others wishing to develop an interpretation plan. It was developed in conjunction with member agencies and organizations of The Ontario Dune Coalition (TODC), including the NYS Department of Environmental Conservation (DEC), the NYS Office of Parks, Recreation and Historic Preservation (OPRHP), county planning agencies, local community groups, and The Nature Conservancy. TODC is a group of land-owner/resource associations and local, state and federal agencies interested in: 1) stabilizing the dune system; 2) developing measures to do so; and 3) maximizing public use while protecting the dunes and private property considerations.

Developing interpretation for the dune and wetland area is supported by previous studies. L.R. Johnston Associates (1989) notes as management problems for the eastern Lake Ontario sand dunes: 1) the increasing recreational use; and 2) the lack of public awareness and education about the dune environment. In addition, Brown et al. (1990) recommended development of thematic interpretation and access to these areas while managing for environmental impacts by visitors.

Background

The eastern shore of Lake Ontario boarders New York State and includes a coastal barrier system approximately 17 miles long (Figure 1). This coastal barrier system is public and privately-owned and contains beaches, sand dunes, wetlands and ponds which are heavily used for recreation. Approximately 7 miles of this barrier system is owned and managed by the State of New York. The remaining coastal barrier system is privately-owned and consists of vacation cottage communities, campgrounds, trailer parks and two nature preserves (Johnston Associates 1989).

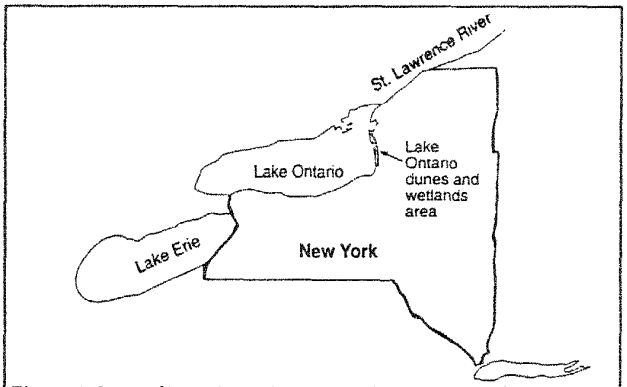

Figure 1. Map of New York State with the Lake Ontario sand dunes and wetlands area indicated.

The area is easily accessible by foot, bike, car and boat. Public access to the area is possible from the following four state-owned properties (Figure 2):

1. Black Pond Wildlife Management Area (WMA);
2. Southwick Beach State Park;
3. Lakeview Marsh WMA; and
4. Deer Creek WMA.

These areas are managed by two different New York State agencies; the WMAs are managed by the DEC and the state park is managed by the OPRHP. Additional recreational access to the sand dune and wetland area will be allowed from The Nature Conservancy's Sandy Pond Beach Natural Area, which will be managed by the DEC. Although somewhat debated, the public is also allowed access by foot along the length of the beach up to the high water line.

Recreational uses of the coastal area include boating, hunting, fishing, hiking, swimming, sunbathing, bird watching, and camping. Not all of these uses, however, are consistent with agency regulations. Different regulations govern the uses of the WMAs and the state park. Some uses, such as swimming and picnicking, are only allowed at the state park while others, such as hunting with firearms, are only allowed in the WMAs (Johnston Associates 1989). Other uses, such as hiking in the dunes, can be destructive to the fragile ecosystem, causing the destruction of beach grass and other vegetation, and the disturbance of nesting shorebirds (Bonanno 1992, Carlson and Godfrey 1989).

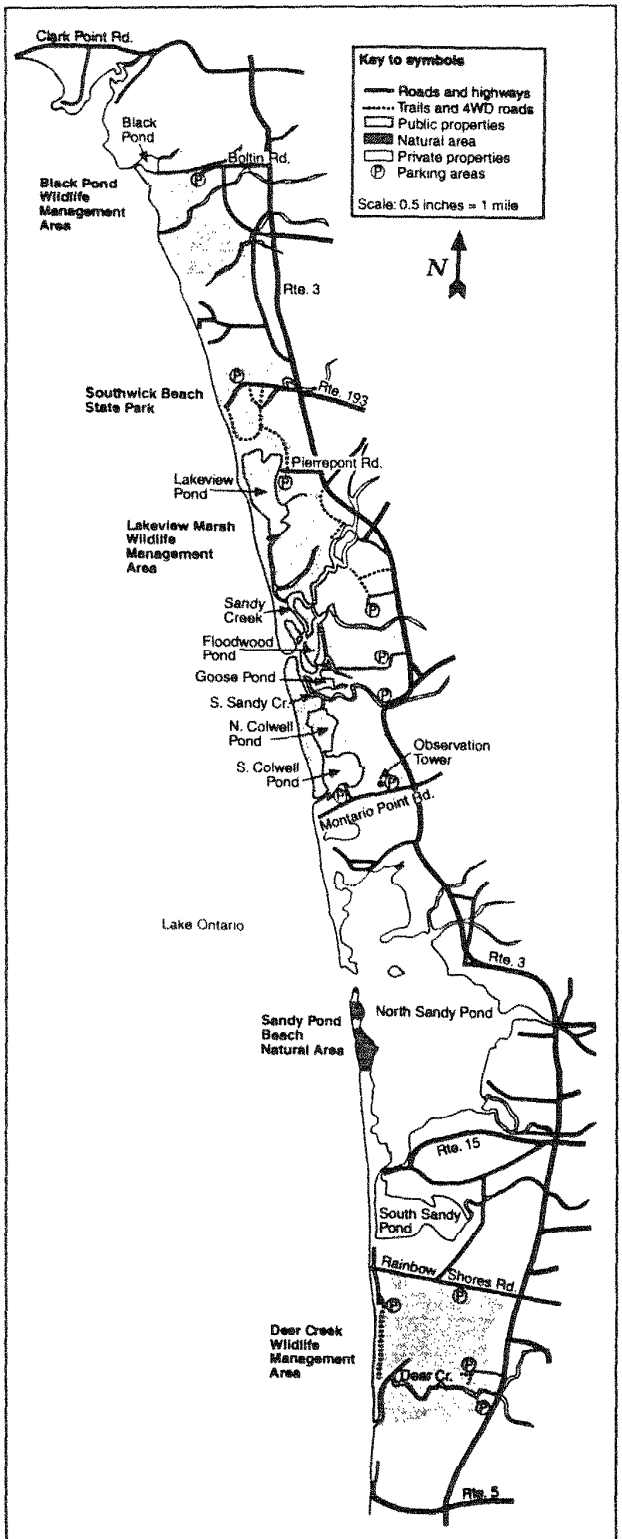

Figure 2. Map of Eastern Lake Ontario Sand Dune and Wetland Area.

Planning Process/Method

The process used in planning the interpretation was based on interpretive master planning (Veverka 1994) and an interpretive planning process originally developed for scenic byways (Kuehn 1993). The following ten steps have been adapted for the project

Step 1 - Identification of planning team
Step 2 - Determine goals of project
Step 3 - Inventory of public areas
Step 4 - Determine appropriate interpretation media
Step 5 - Develop structure of project
Step 6 - Determine current/potential recreationists
Step 7 - Develop themes and subthemes
Step 8 - Develop wording for interpretation
Step 9 - Prioritize interpretation
Step 10 - Publish interpretive recommendation report

The following steps continue this process beyond the scope of this project:

Step 11 - Implement recommendations in project
Step 12 - Promote project
Step 13 - Evaluate project and modify interpretation as needed

Planning Team

The project planning team was made up of a New York Sea Grant Specialist and a Sea Grant Extension Scholar. Interested parties consulted for the project included DEC biologists, an OPRHP Park Manager, local community leaders, an Oswego County Planner, a The Nature Conservancy Project Manager/Stewardship Ecologist and other TODC members. The diverse backgrounds and knowledge of these interested parties greatly increased the scope and usefulness of the project

Goals

The goals for this project are a combination of general interpretive goals (Ham 1992, Kuehn 1993, Veverka 1994) and specific goals for the area. The following are the seven goals for the project.

1. To inform and educate visitors about the area through the development of thematic interpretation;
2. To increase visitor awareness of sand dunes and wetlands;
3. To orient visitors to Lake Ontario's sand dune and wetland area;
4. To communicate proper access to visitors;
5. To communicate agency and community goals and regulations for the area to visitors, and;
6. To decrease destructive visitor impacts.

These goals are not listed in relative order of importance and should be viewed as a comprehensive planning effort.

Area Recreationists

The area is heavily used by a wide variety of recreationists. Market analysis for the Oswego-eastern shore communities, including the sand dune and wetland areas (Brown et al. 1990), identified four target markets for the area. 1) young active

Table 1. The use and potential for expansion of target markets for coastal Lake Ontario recreational activities.

	Target Markets				
Activities	Young Active Adults	Families with Children	Pre-retirement Adults	Active Seniors	Local Residents
Fishing	E	E	E	L	E
Boating	E	E	E	L	E
Camping	E	E	G	L	L
Nature Study	G	G	L	L	G
Biking	P	L	L	L	P
Hunting	E	E	E	L	E
Cross-country Skiing	E	E	E	L	E

Key: E = Estabilshed market expected to maintain similar levels; G = Existing markets with growth potential; P= Limited or nonexisitant market with potential for expansion; L= Limited or nonexisitant market with limited potential. Adapted from source: Brown et al 1990.

adults (individual adults and couples under 45 without children); 2) families with children (one or more adult with children under 16); 3) pre-retirement individuals (individuals and couples in their mid 40's to mid 60's who no longer have children at home); and 4) active seniors (older individuals and couples, in good health and generally no longer working full-time). An additional market has been identified for the area: 5) local residents; which includes individuals and families living within 10 miles of the sand dunes and wetlands. Table 1 indicates these markets, their recreational use of the area, and their potential for expansion.

Because most markets are shown to be well established in the area and many are repeat visitors, developing interpretation should be an effective management tool for changing recreationists' behavior.

Interpretation Media

Five different types of interpretation media have been developed for the project. The interpretation is meant to be used throughout the four state-owned areas, linking the noncontiguous areas for recreationists.

Erosion prevention signs. These small signs have been designed to deter entry into dunes. They are to be placed at regular intervals along the beach with a physical barrier, such as snow fencing.

Guidebook. A guidebook has been designed for the area: "Sand, Wind, and Water: Lake Ontario Sand Dunes and Wetlands." The guide includes interpretation of area flora and fauna, maps with public access and parking indicated, trails and canoe routes, and agency rules.

Kiosks. One- and three-sided kiosks are recommended for the seven major access points. Each kiosk has an area map, and interpretive and informational panels

Interpretive signs. Signs have been designed for interpreting points of interest. They are to be placed at various locations visited by recreationists.

Self-guided interpretive trail. Signs interpreting different habitats and trailhead kiosks have been developed for a trail system that links Lakeview Marsh WMA and Southwick Beach State Park.

Themes and Subthemes

Effective interpretation includes the development of themes. Themes are ideas, concepts or messages that form the basis of interpretation for visitors. In larger interpretive plans, the theme can be narrowed into related subthemes for each interpretation component (Ham 1992, Kuehn 1993, Veverka 1994). Themes and subthemes developed for the project are listed in Table 2.

Recommendation Report

The interpretative recommendations have been compiled into a report. This report includes: area and site maps; themes and subthemes; draft of the guidebook; suggested wording and placement of interpretive signs and kiosks; and interpretation that should be considered in the future (Earnest 1995).

Discussion and Implications

The project is not designed to directly deal with management issues but to develop interpretation and suggest where and how it should be used. In designing the interpretation, however, several management issues are implied.

The fact that the public areas are managed by two different state agencies, has both enriched and complicated the project. The manicured state park provide visitors with various day and overnight recreational opportunities, while the nearby WMAs offer day-use, nature-based opportunities. Letting visitors know about these differences in a simple way has been a challenge of the project.

Table 2. Themes and selected subthemes developed for the interpretation project.

Interpretation Media	Theme
Project	Balancing the use and preservation of the fragile sand dunes and wetlands of Eastern Lake Ontario is important for both wildlife and people.
Trail	Transition through a diversity of natural areas can be seen on the Southwick/Lakeview Trail
Subthemes for the kiosk panels and signs	- The beach, sand dunes and wetlands support a diversity of life. - Sand dunes are very fragile and easily eroded. - There are many different types of habitats along the Lake Ontario shoreline. - Lake Ontario's sand dunes and wetlands are ever-changing natural resources. - Sand dunes are held together by plants. - Wetlands are an important natural resource. - Two kinds of plants can live in watery environments, aquatic and emergent plants. - Many different types of wildlife live in Lake Ontario's meadows. - Agricultural use of the area has had a lasting effect on the Lake Ontario environment.

Some concern has been raised that development of interpretation may bring in additional recreationists to an area already showing signs of overuse. In order to keep visitor impacts on the environment to a minimum, promotion of the area is not a focus of the project. Instead, it has been designed to educate the visitors as they enter the area and direct recreationists to proper access points, away from fragile areas. Visitors need to be made aware of where and what recreational uses are appropriate. Interpretation has been shown to be an effective means of indirectly managing recreationists, affecting their behavior, and communicating information to visitors (Ham 1992).

The present recreational use of the four-state owned properties have been considered in the project. The present recreational use shows where interpretation would be most effective and suggests the type of interpretation media needed. Physical structures, such as dune walkovers, have been shown to effectively decrease dune erosion. Although they are beyond the scope of this project, they are encouraged. The potential for expansion of this project includes development of an interpretive center, a formal educational program and hiring seasonal or full-time interpretive staff.

Conclusion

Many people visit the eastern Lake Ontario sand dune and wetland area every year. Years of recreational use has stressed this area, causing the need for improved visitor management and interpretation. The preservation of this fragile area depends on the cooperation of visitors, local community groups, and local, regional and state agencies. Without this cooperation, this unique and fragile area could not exist. Interpretation can provide a means to help manage this area.

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A RESEARCH FRAMEWORK TO ASSESS THE BIOPHYSICAL IMPACTS OF NATURE-BASED TOURISM: A THESIS PROJECT

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Introduction

Nature-based tourism has become increasingly popular within the tourism industry due to tourist and industry perceptions of host country benefits, tourist demand, and the potential for obtaining revenues while emphasizing environmental preservation. Although a commonly discussed concept, little research has been conducted to determine the impacts of nature-based tourism. The majority of the current literature emphasizes policies and procedures for governing, organizing and developing facilities and attractions. Effective planning and management of natural resources for nature-based tourism purposes must be based on information regarding positive and negative social, economic and biophysical impacts. The success and future direction of planning and development for nature-based tourism can be determined based on researching these impacts.

Biophysical impacts linked to nature-based tourism activities can be prevented by incorporating research into natural resource planning strategies. The purpose of the thesis project was to propose a general research framework to set nature-based tourism industry standards, influence policy decision making, and establish linkages between biophysical impacts and the activities of nature tour operators, guides, and tourists.

A case study conducted in Belize, Central America, examined the availability of research related resources and considered factors affecting the framework's ability to establish linkage. Case study methods included personal observations, and interviews with site employees, nature tour operators, and other tourism and environmental professionals. The general research framework was adapted to Belize to identify it's strengths and weaknesses and recommended revisions and implementation procedures.

Definitions

Mass tourism, nature-based tourism and ecotourism definitions can be likened to the recreation opportunity spectrum to describe a range of development, environmental quality, access, and recreation opportunities. At the furthest end of the spectrum, mass tourism is based upon greatest accessibility and extensive development of man-created attractions such as dance clubs, restaurants, stores, theme parks, and hotel chains (Kusler 1991). The sites may be severely degraded or of diminished environmental quality and support activities that require certain equipment such as scuba diving, or development of special facilities.

Nature-based tourism falls in the middle range of the spectrum implying moderate accessibility and development. It was defined for the purposes of this thesis project as engaging in recreation activities that emphasize use of the natural resources at a facility, site or attraction (Ziffer 1989). The environmental quality of the sites directly affects visitor experiences and can form the basis for setting area carrying capacities to prevent biophysical impacts. The nature-based sites are relatively undisturbed natural areas or inhabited rural environments and support a variety of activities that do not require large scale development of facilities or services.

Ecotourism includes the most undisturbed or pristine areas that are the least developed and have minimal vehicle or human access on the spectrum. Ecotourism attempts to incorporate cultural, economic, and environmental benefits for host countries and communities by encouraging small scale development projects, resource planning, and site management for minimal use (Boo, 1990).

Ecotourism is often incorrectly used to describe nature-based tourism but includes a smaller range of activities and settings. In order to be considered ecotourism, tourism related activities must be coordinated with user ethics, user responsibility, and natural resource planning efforts. The common misuse of the word ecotourism to describe nature-based tourism leads to different host country expectations (Ziffer 1989).

Nature tour operations are the on site activities engaged in by outbound or inbound nature tour operators. Nature tour operators are not commonly distinguished from other tour operators but can be described based on the nature-based sites they visit and the outdoor experiences they offer. Outbound nature tour operators are foreign owned companies that coordinate, organize, and promote nature-based tourism, and arrange for the transportation, accommodations or other tourism related services. They may or may not have a branch located in the host country. Inbound nature tour operators are locally owned companies fulfilling some or all of the same tasks but operate on a smaller scale. They typically maintain closer relationships with on site activities due to their closer proximity and greater familiarity with local sites, customs and traditions

Guides are local or foreign individuals who interpret site attributes. Duties include interpretation of attractions, describing local customs and culture, and providing transportation or otherwise assisting tourists. They are distinguished as on or off site based on their employers. Guides include those employed by nature tour operators, referred to as off site guides, those employed by the sites, otherwise known as on site guides, and those independently employed, who are also categorized as off site guides. The main definitive qualification for guides is on site interpretation.

Biophysical Impacts of Nature-Based Tourism

Both negative and positive impacts can occur at national, regional and local or site levels. It is difficult to separate biophysical impacts because they are heavily intertwined and need to be considered both together and individually. Potential positive impacts include preservation or conservation of natural areas, support to protect additional areas, less intensive resource use options, and protection of areas and features unique to the world. Potential negative impacts include overcrowding, weather unpredictability, inadequate resource protection and management, unplanned development and poor land use practices, and ecological stress increases. Unattractive areas become unpopular and the tourists leave, taking the economic base with them (Boo 1990).

The primary focus of the thesis project was on the impacts linked to the activities involved in site use. Ecological stress and pressures from tourists, guides, and tour operators have sometimes in some cases resulted in a shift in the balance from preservation to exploitation. In the well known areas the number of tourists frequently exceed the capacity of the staff to handle them. Personnel is also often under skilled and unfamiliar with visitor and resource management, magnifying some of these problems (Boo 1990).

Tourism related and local activities on site can harm or destroy plants and animals, increase erosion in sensitive areas, compact soils, increase air and water pollution, and disturb or displace animals. The potential impacts mentioned in Table 1 were categorized by resource type for the purposes of designing the general research framework. Site resources compose the biophysical environment and may be affected in numerous ways by the actions of locals, nature tour operators, guides, and tourists.

Nature tour operators, guides, site staff and tourists are most frequently engaged in on site activities and likely contribute the most to biophysical impacts. They experience direct and regular contact with sites, they affect the quality and existence of site resources, and their activities utilize the resource base (Wood 1989). Research can determine relative impact magnitudes and the associated events or roles of locals and the key participants within the nature-based tourism industry.

The cause, intensity and severity of biophysical impacts are influenced by a complex variety of natural and site use factors. Nature tour operators, guides, tourists, locals, and other users of site resources contribute to impacts through specific actions and behaviors such as walking on trails, disposing of garbage and wastes, concentrated use in fragile areas, and contact or interactions with species. Other factors like site layout and design, also effect the intensity of impact. Environmental elements such as the type of water body, climate, topography, and habitat composition, also affect biophysical impacts either in conjunction with or independently from nature-based tourism activities.

General Research Framework Design

Impacts for the general research framework were chosen based on their capability to study nature-based tourism's contributory role to biophysical impacts. The largest potential barrier to the success of researching impacts is connecting specific tourism activities and actions to identified or observed biophysical responses or impacts. To establish this potential linkage, the general research framework proposes a descriptive checklist, matrix, network, and research projects, combined to connect behavioral aspects to physical indicators of impact. The framework descriptive checklist suggests the contributors, events, and biophysical responses. The matrix assigns the relative magnitude and importance of stressor events related to impacts. The network identifies physical indicators to measure. Data generated by the framework is intended to direct site management and apply the Limits of Acceptable Change and Visitor Impact Monitoring models, formulate industry policies and set regulations, apply guidelines for nature tour operations and guides, evaluate the success of nature-based tourism, and illustrate some of the relationships between environmental conservation, tourism and nature-based tourism.

Checklists identify criteria related to development or operation of facilities that will affect the environment. Structured checklists select relevant impact related factors to be considered including ecological, site characteristics, and social (Canter 1977). Simple checklists classify impacts based on similar references of time, space or the nature of impact. The disadvantages of these checklists are their lack of researcher instruction and inability to identify the importance or potential severity of impacts (Williams 1994).

Simple checklists can be expanded to include planning, design, construction and operation impact criteria. Descriptive checklists modify and improve upon this technique by adding specific research guidelines to consider the factors contributing to impacts. Scaling weighing checklists can then enlist rating

Table 1. Potential resource impacts related to nature-based tourism activities (Adapted from Marion 1991 and Williams 1994).

Soil	Water	Air	Ecological/Biological	Aesthetic/Visual
Erosion	Pollution and siltation	Public health	Habitat alteration	Scenic quality
Compaction	Ground water quality	Air quality	Species displacement	Site design
			Vegetation composition	Noise level

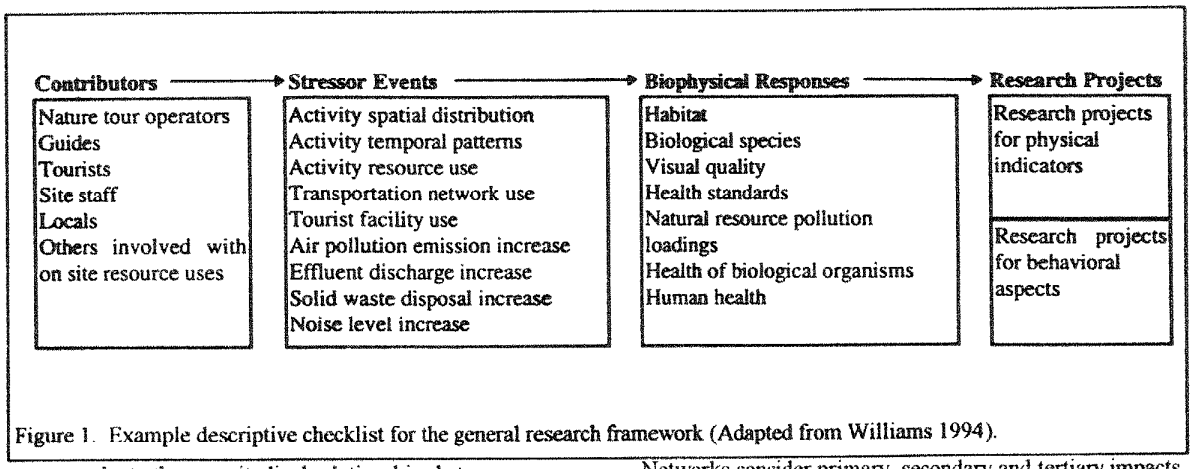

Figure 1. Example descriptive checklist for the general research framework (Adapted from Williams 1994).

systems to evaluate the magnitudinal relationships between impact factors, increasing the depth of research (Williams 1994).

The general research framework descriptive checklist in Figure 1 was adapted as an example identifying the contributors and potential tourism related events that add to biophysical responses or impacts. The checklist also introduces research projects to measure the impacts.

Matrices and networks, Figures 2 and 3, offer the most extensive analyses developed to assess and compare impacts. Matrices are used to identify various factors linked to specific impacts. A matrix is a two dimensional checklist arranged to allow consideration of each stressor event as it relates to each biophysical response. Matrices are employed to compare the relationships between individual events and impacts, indicating which combinations are of greater significance (Canter 1977).

Matrices utilize diagonal lines to denote both the magnitude and importance of impacts based on specific actions and the expected biophysical responses. A matrix is adapted to the general research framework to illustrate potential research priorities based on the strength of impact relationships to stressor events. The degree of impact is reflected by assigned numerical values to formulate ratios. The design of the matrix is flexible and can be limited to checklists identifying impact criteria over time and space, using positive or negative symbol signs (Williams 1994).

Activity spatial distribution, activity resource use and solid waste disposal increases have the highest magnitude and importance as they potentially affect habitats in this example matrix. Effluent discharge increase, tourist facility use, and solid waste disposal increase have a greater impact on natural resource pollution loadings than on habitats, according to the matrix example. The matrix depicts magnitude and importance relationships between stressor events and biophysical responses to set research priorities and select the most relevant impact relationships.

Networks consider primary, secondary and tertiary impacts related to tourism development or activities. Relevance trees use branches similar to the network format and establish general impacts leading to more specific indicators to research (Canter 1977). A network is applied to the general research framework to exemplify physical indicators of impacts that can be measured through research projects. Illustrated in Figure 3, a chain of events is triggered by a singular action or set of impact events (Williams 1994). The network example demonstrates the complicated nature of impact assessment. The full range of impact events need not be studied but at least understood in order to interpret the significance of researching specific impacts and selecting physical indicators to measure through research.

The framework combines impacts of varying environmental complexity, rates and severity with nature-based tourism characteristics and behaviors in order to depict a broad scope of biophysical impacts. It is designed to establish linkage by identifying and studying specific nature-based tourism characteristics while concurrently monitoring and observing biophysical impacts on site. The physical indicators of impacts and the behavioral aspects of nature-based tourism are addressed independently by incorporating a flow chart of research projects, as illustrated in Figure 4, in order to establish linkage.

The physical indicators of impact are selected using the network analysis. Secondary data analysis and inventories direct the design of monitoring programs and site specific applied research by identifying relevant factors and issues on site that affect the impacts and their measurement. The intent is to isolate the selected physical indicators from other impacts and non tourism related stressor events. If these indicators are not clearly identifiable, linkage cannot be established.

Nature-based tourism characteristics and case studies clarify research questions and indicate the type of nature tour operators, guides, tourists and intensity of site use. Patterns of behaviors can be established and compared to potential biophysical impacts.

Stressor Events	Habitat	Bio. species	Visual quality	Health standard	Natural resource pollution loads	Health of bio-orgs.	Human health
Activity spatial distribution	3/2	2/2	2/3	2/2	2/2	1/1	1/1
Activity temporal patterns	2/3	2/3	2/3	2/2	2/2	1/1	1/1
Activity resource use	3/3	2/2	2/3	1/2	2/3	1/2	1/1
Transportation network use	2/2	2/2	2/2	1/1	3/3	1/1	1/1
Tourist facility use	3/2	2/2	3/3	1/1	3/3	1/1	1/1
Air pollution emission increase	2/2	2/3	2/3	2/3	2/3	2/3	2/2
Effluent discharge increase	2/3	3/3	2/2	2/3	3/3	2/3	2/3
Solid waste disposal increase	3/3	3/3	2/2	2/3	3/3	2/3	2/3
Noise level increase	2/2	2/3	1/1	2/2	3/2	2/3	1/2

Biophysical Responses or Impacts

M/I

M= Magnitude I= Importance
Scale scores: 3= high, 2= moderate, 1= low
(Adapted from Williams 1994).

Figure 2. Example matrix format for the general research framework (Adapted from Williams 1994)

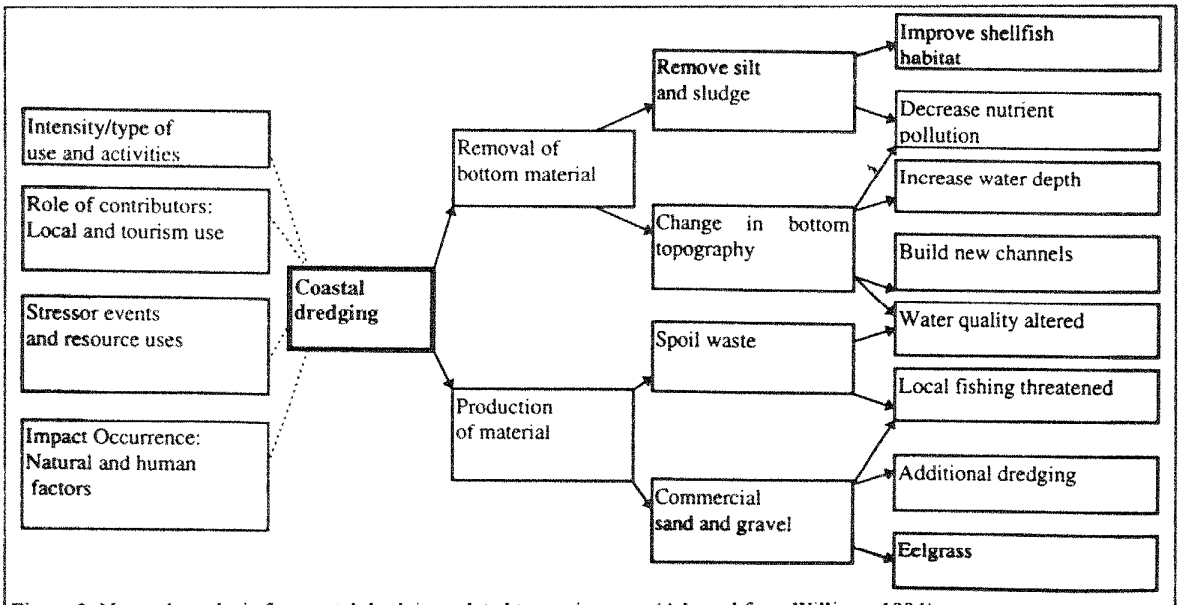

Figure 3. Network analysis for coastal dredging related to tourism use (Adapted from Williams 1994).

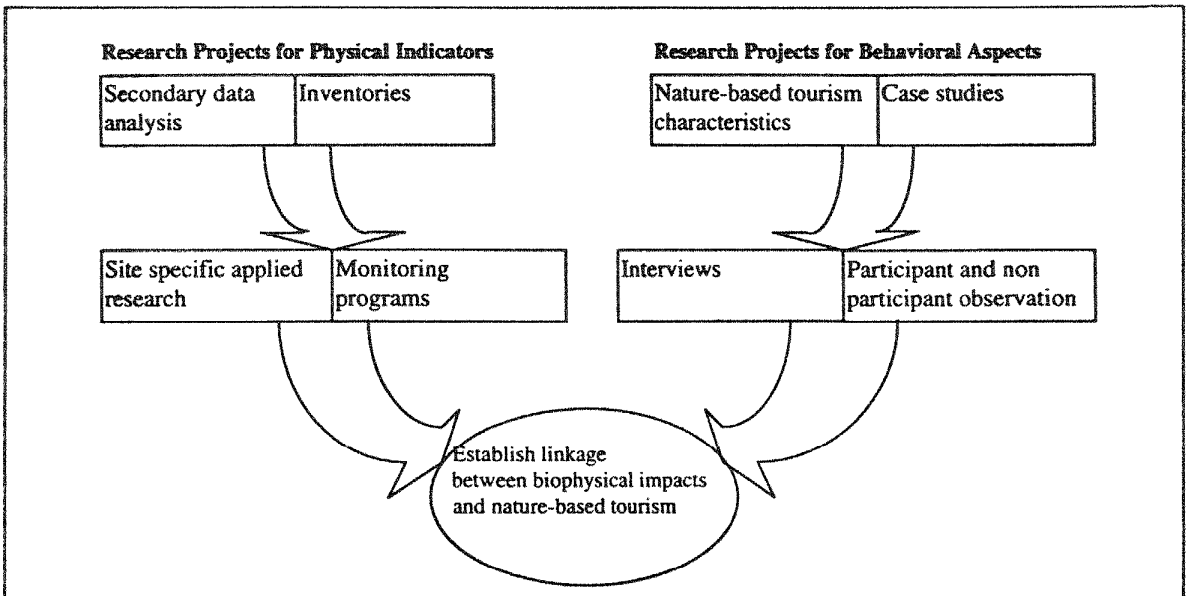

Figure 4. Flow chart of research projects for the general research framework.

The activities and behaviors related to stressor events can be interpreted through interviews with key participants and on site observation studies. If the behaviors and actions related to stressor events cannot be identified of interpreted, linkage cannot be established to biophysical impacts.

Research framework projects attempt to account for the environmental factors influencing the impacts, the site layout and design, and the resources available to research organizations. Access to background information, equipment, and researchers, and local assistance, also effect project and method selection. Final considerations include support of local and non local organizations, and the structure required to gather, organize and analyze the data collected. The complex interrelationships among impact factors can be described by combining various research projects to target specific impacts. Nature-based tourism activity impacts must be separated from those caused by other site users and nature. The Projects were intended to compare control groups to experimental groups as well as assess the character of nature-based tourism activities and site use patterns.

Results of the Case Study and General Research Framework Adaptation Process

The general research framework is based on a set of assumptions and conditions that are only useful and valid if they can be tested by adapting a version to a host country. The feasibility and utility of the impacts and research projects was assessed by adapting a version to Belize composed of a descriptive checklist, a matrix, networks, and research projects. The case study examined the research related resources, the tourism and nature-based tourism industries, private and public tourism related organizations, and the environmental and design characteristics of sites in Belize

The low demand for the inland sites represents the greatest reason to test and apply the research framework to Belize. These sites have not yet experienced extensive visitation which enables baseline data gathering, carrying capacity studies and impact assessment to occur. Current mass tourism demand in Belize emphasizes the coastal sites, along the second largest barrier reef in the world. Mass tourism sites have experienced larger degradation of the resource base and cannot be used to monitor and measure the process of impacts. Personal observations of the sites and BTB data indicate minimal deterioration of sites' visual quality and attractiveness, limited on site local use, and the potential to establish linkage between biophysical responses and nature-based tourism related stressor events. The advantages of testing and adapting the research framework to Belize are vast undisturbed areas, the lack of a language barrier, high diversity and quality of natural resources, and excellent inland and water based sites (Nicolait and Associates 1984).

The supportive structure, research related resources, characteristics of the sites, and other aspects of framework implementation investigated by the case study, indicate that a version of the general research framework could be adapted to Belize. The responsibility of implementing research projects, coordinating and organizing the data, and ensuring quality control can be meet by the Belize Tourist Board with the support it receives from the Ministry of Tourism and the Environment. The Belize Tourism Industry Association, the Belize Audubon Society, and the Belize Center for Environmental Studies, can design the research projects, select the sites and sampling points to measure, evaluate the success of the framework, assess quality control, and train locals and employees to participate as research assistants.

Impact selection, description of impact relationships, and designation of research projects was addressed in the thesis to adapt a version of the general research framework to Belize Impacts of differing degrees of complexity were selected to provide a variety of results, employing multiple research projects. A combination of six impacts was chosen for the framework based on a literature review of the biophysical characteristics of site environments and the following impact criteria:

- They could be easily defined.
- They appeared to be highly observable or illustrate a common occurrence at multiple sites.
- They could potentially generate results through proposed research projects.
- They could be related to nature-based tourism activities.
- They represented the desired spatial and temporal dimensions for research.

The framework combined the following short and long term impacts; trail erosion, litter, water pollution, human waste concentration, howler monkey calling, and bird nesting behaviors. The results from multiple versus singular impact analyses are more conclusive and can better describe the character of nature-based tourism activities and their impacts.

The general research framework was adapted to Belize to consider it's usefulness and discuss issues affecting it's application in host countries. The significance of the changes made during the adaptation process are described in the thesis as they affect the utility of the general research framework. Conditions and requirements are suggested to promote successful application of the general research framework based on the results of adapting the framework to Belize.

Recommendations For The General Research Framework

The general research framework proposes a method of scientifically evaluating nature-based tourism's role in preserving natural resources as a measure of determining it's success. The following recommendations are based on the results of adapting the framework to Belize and suggest revisions, application and implementation procedures.

1. To adapt the framework, select impacts that are direct impacts, are not prohibited by resource constraints, and can describe typical nature-based tourism activities or related stressor events.
    - Determine the amount of local or other non tourism related site use.
    - Assess the quality of natural resources at sites, they must not be extensively degraded prior to starting a baseline study for monitoring.
2. Establish potential linkage between biophysical impacts and nature-based tourism related stressor events by adapting the general research framework
    - Formulate descriptive checklists, matrices, networks and computer models, networks and matrices to assess impact relationships.
    - Select biophysical indicators and stressor events that are likely to occur, are not greatly affected by natural factors or other site resource uses, and represent typical on site nature-based tourism activities.
3. Implement framework research projects according to their functions.
    - Conduct inventories and secondary analyses to design monitoring programs
    - Conduct monitoring programs to record impacts using simple and easy techniques, and enlist locals or guides as research assistants
    - Conduct site specific applied research to record long term impacts, designed and primarily undertaken by experts, who may eventually develop monitoring programs.
    - Collect user characteristics data and conduct case studies to clarify definitions, roles and relationships between the key participants within the nature-based tourism industry.
    - Conduct interviews and analyze company literature to understand the motivations and interpret the behaviors observed of nature tour operators and guides on site
    - Conduct participant observation studies to observe on site activities, and to indicate the contributors and involvement of nature tour operators, guides, tourists, and other players in stressor events
4. Implement the framework research projects in stages beginning with recording nature-based tourism characteristics.
    - Compare group size, origin and number of visitors among different categories of nature tour operators and guides.
    - Begin to build the database to explain the nature of site visitation, potential impacts, and influence the direction of framework research
    - Conduct inventories, analyze literature and interview nature tour operators to adjust or adapt the proposed framework monitoring programs and participant observation research, increasing the potential to establish linkage.
5. Clarify host country definitions of nature-based tourism, nature tour operators, and guides.
    - The same terminology must be used to distinguish between impacts of ecotourism, nature-based tourism and mass tourism in order to interpret research results and set industry regulations or standards
    - On site and off site nature tour operators should be differentiated based on access to financial and personnel resources, and their interactions with on site activities.
    - Guides should be distinguished by the nature of their employment, training, and contact with on site activities.

6. Consider national, regional, and local needs in addition to potential impacts, to set research framework goals and objectives.
   - Apply the continuous planning process and integration within multiple levels of communities and governments to adapt the research planning process suggested in chapter three.
   - Set research objectives to direct LAC and VIM strategies, zoning, and multiple use planning based on research results.
   - Design research projects to reflect various biophysical impacts, their relative severity, and their potential affects on the nature-based tourism industry.

7. Investigate means to share research costs within the public and private sectors of the nature-based tourism industry.
   - Rely on government organizations and managers of natural resource preservation areas to conduct research on their own sites, supply equipment or provide research assistant training programs to privately owned sites.
   - Consider introducing a fee system to the government owned nature-based tourism sites to supply research revenues.
   - Provide financial incentives for the privately owned and operated sites to participate in research and contribute to the database.
   - Encourage professional environmental and tourism associations and outbound tour operators to donate financial, technical and logistical support.

8. Utilize a government tourist board to plan, coordinate and implement specific research projects.
   - Implement research based on the strength of research related resources and the supportive structure.
   - Research project designs and methods should be coordinated by the tourist board relying on the expert opinions of environmental scientists, tourism researchers and government agencies.
   - Select impacts and research projects that can be applied to most sites, and monitor quality control and adjust research design.
   - Choose sites to research that represent different ownership and management, and feature various natural, historical or other features of the sites' attraction.

9. Implement programs to train locals as research assistants, and obtain technical and logistical support from environmental and tourism organizations.
   - Facilitate training and utilize host country residents as research assistants
   - Organize financial, personnel and other means of research support with local environmental and tourism organizations.

Conclusion

Negative biophysical impacts decrease the viability of tourism as a less consumptive use of natural resources. Sustainable tourism and research of impacts can best be achieved by relying on the support of public and private organizations, agencies and companies involved in the nature-based tourism industry. The general research framework can assist with the design of LAC and VIM for site management, set industry polices and standards, and provide the foundation to apply evaluation guidelines to the actions of nature tour operators, guides and tourists.

Application to individual countries and usefulness of the general research framework is affected by political, cultural, environmental and site design factors, as well as government and non government organizations that compose the nature-based tourism industry. The greatest contribution offered by the framework to the nature-based tourism field is it's recognition of the need for scientific research to assess biophysical impacts linked to nature-based tourism.

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DEVELOPMENT OF A SELF-GUIDED AUTO TOUR TO THE SALMON RIVER CORRIDOR: SALMON RIVER, NEW YORK

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In addition to informing, educating and entertaining visitors, interpretation assists stewards of an area in accomplishing management goals. This case study looks at the development of an interpretive publication in Upstate New York. The process adapted from previous literature is explained as well as several implications of the guide's publication in the study area.

Introduction

The Salmon River runs 44 miles from its headwaters on the Tug Hill Plateau and drains into Lake Ontario at Port Ontario, New York. The last 12 miles of the river system through Oswego County is the main focus for anglers who arrive due to the fall salmon spawning.

Oswego County, located in upstate New York, has been affected by both the positive economic benefits and negative social impacts of tourism. The Oswego County Department of Promotion and Tourism has successfully positioned the county as one of the premier sportfishing capitals in the world. Two New York State Department of Environmental Conservation fish hatcheries within the county, and the area's location along the shores of Lake Ontario have contributed to the success of their marketing strategy.

However, there have been several negative effects of the increased tourism along the Salmon River. Conflict exists between those whose families have lived there for many generations and those who have newly discovered the area. Roadside stands offering sales of fishing equipment, fish cleaning services, and parking spaces giving anglers easy access to the river have become ubiquitous during the fall salmon run. Other impacts include erosion along the river, due to soil compaction, litter and fishing line left behind by inconsiderate anglers, and trespassing onto the property of residents whose homes are on the river banks.

Initiation of Project

In 1994, the Oswego County Department of Promotion and Tourism, in response to a recommendation in a tourism development plan, contracted for the research, development, and layout of a draft version "Interpretive Guide to the Salmon River Corridor." The broad mission of the guidebook are to further the goals of the Department of Promotion and Tourism while attempting to reduce some of the negative impacts from tourism. The guidebook was designed to include three major parts; 1) a driving tour to the area's historical and natural resources and attractions, 2) site-specific children's activities, and 3) a list of recreational activities in the area.

Process

Previous literature (Kuehn, 1992, Veverka 1994) concerning the creation of interpretation and interpretive planning was adapted to create this guidebook. Figure 1 summarizes the process used during the development of the publication.

Step 1. Organizing Project

At this stage of the project, themes, goals, and objectives for the guide were formulated which act to direct the project. The main theme of the guide is: "The Salmon River Corridor is the focus of unique ecosystems, history and recreational opportunities." The goals and objectives support the main theme throughout the guide. These are:

Goal 1. Further assist in developing the Salmon River Corridor as a Tourism Destination Zone.

Objectives

a. Create Driving Tours to link sites and towns along the Salmon River Corridor.
b. Promote the year-round activities available to visitors to the Salmon River Corridor.
c. Promote the attractions found along the Salmon River Corridor.

Goal 2. Teach the value of protecting and enhancing the natural, scenic, and cultural resources of the Salmon River Corridor.

Objectives

a. Promote and encourage safety and stewardship in conjunction with recreational uses.
b. Give visitors to the area an awareness and appreciation of the history of the Salmon River Corridor.
c. Increase awareness and appreciation of natural resources along the Salmon River Corridor.
d. Develop children's activities to assist in increasing awareness of history and natural resources.

Goal 3. Reduce conflict with visitors in order to enhance and maintain the quality of life for Salmon River Corridor residents.

Objectives

a. Increase visitor consciousness and respect for private landowner rights.
b. Increase economic benefits to residents due to increased tourism.
c. Promote awareness and appreciation of Salmon River Corridor history and resources.

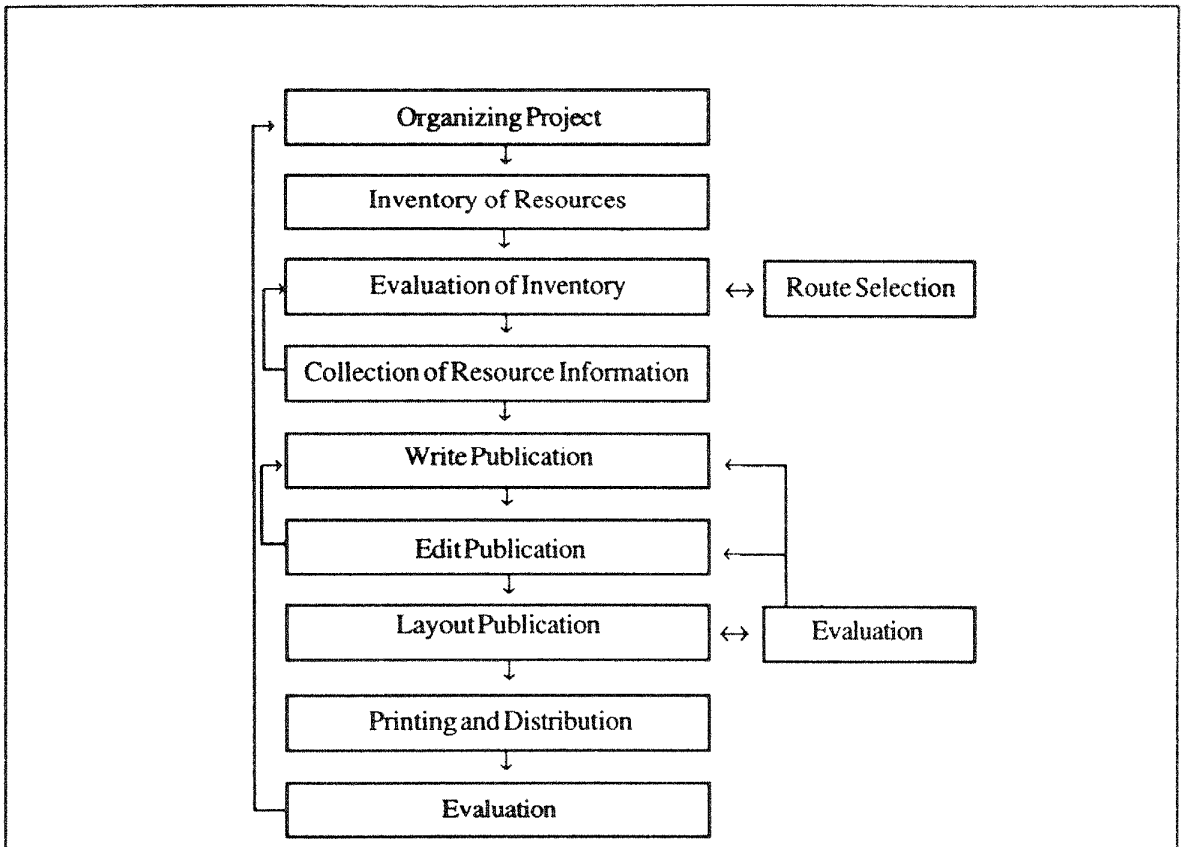

Figure 1. Process for developing self-guided auto tour.

The different topics to be included in the guide may be considered subthemes and further assist the interpreter in reaching the target markets (Table 1).

Also in this step, initial contact was made with historians, agencies, and other interested parties who might be of assistance in the project via a letter.

Step 2. Inventory of Local Resources and Selecting Priorities

After touring and becoming familiar with the Salmon River Corridor, the possible sites and attractions to be included were identified. These were then evaluated by weighing each based upon various features such as relationship to theme, accessibility, uniqueness, aesthetics, and historical significance. Assigned values could then be used to determine which sites should be included in the guide. Based upon the sites selected the route for the driving tours could be set.

Step 3. Route Selection

The selection of the route occurred in close conjunction with the evaluation of inventory in step 2. This step is not always necessary, such as when a guide is written for a trail that is already in place or the route is on a linear trail. By selecting a route at this stage, the project committee was forced to evaluate what features and attractions throughout the area best represent the project's themes, goals, and objectives In addition, selection at this point made the collection of information more efficient because it was known what sites would be used in the final version of the guide. The route was designed to go near features of the most importance for inclusion

Step 4. Collection of Resource Information

At this point in project development, actions included: visiting all of the possible sites and attractions; researching the area and its' history in community and area libraries, and speaking with interested parties. A unique aspect of this particular interpretive guide is a section detailing recreational opportunities for visitors to the area. Therefore, at this stage site investigation and participation in the activities where activities could be encouraged also took place

Using the mailing list created, various people were contacted and meetings were held to discuss the project These meetings furthered the project's development in. learning basic information about the site for use in the guide; finding out what activities and opportunities exist for visitors of the site; learning of further possible sources of information, e.g. other

Table 1. Guidebook Sections by Target Markets

	Young Active Adults	Families with Children	Pre-Retirement Adults	"Anglers"/ "Sportsmen"	Active Seniors	Residents
Driving Tours						
Human History		X	X		X	X
Natural History	X	X			X	X
Natural Resources	X	X	X		X	X
Attractions						
Hatchery	X	X	X	X	X	X
Falls	X	X	X	X	X	X
Lighthouse	X	X	X	X	X	X
Hydropower Facility		X		X	X	X
Children's Activities						
Human History		X				X
Natural History		X				X
Natural Resources		X				X
Recreational Opportunities						
Fishing		X		X		X
Hiking	X	X	X		X	X
X-Country Skiing	X	X	X			X
Snowmobiling	X		X	X		X
Canoeing	X	X	X			X
Kayaking	X					X
Biking	X	X				X

Young Active Adults: Includes married and unmarried young adults without dependent children
Families with Children: Combines one and two parent families with either younger or older children
Pre-Retirement Adults: Includes both individuals and married couples who no longer have children at home, their age ranges from 40's to 60's
"Anglers"/"Sportsmen": Includes visitors to whom sportfishing is the primary reason for visiting the Corridor
Active Seniors: Includes older individuals (65+ years old) and married couples no longer working full-time who are still in generally good health.
"Residents": Includes residents of the Salmon River Corridor. (Adapted from Kelly 1987)

people or published information; and learning what the representative considers important for inclusion.

Libraries were valuable sources for obtaining further information and insights about the area, its history, and ecology. County, university, and community libraries all were accessed for the wide variety of resources offered. The community libraries within the Salmon River Corridor, while very often quite small, frequently contained sections of local interest and/or history including rare or not widely distributed publications.

The guide was also designed to include a section concerning recreational opportunities for visitors to the site. Several of those that were to be included had little site specific information published. In order to best represent to the visitor what s/he might expect to find, research took the form of participating in the activities at the sites where they would be recommended. ter potential sites were identified, they were visited and explored. Considerations such as length of trail, level of difficulty, appropriateness for different abilities, accessibility and space for parking, and aesthetic beauty were then used to determine whether the trail might be suitable for inclusion in the guide. Those that best accommodated differing abilities, and which were considered preferable based on the criteria mentioned above, were selected.

Step 5. Writing and Structuring the Publication
Using established interpretive techniques, the publication was written in a style appropriate for most visitors to the area. In keeping with the original themes and objectives the writing and material presented was mostly targeted toward "families with children."

Step 6. Edit Publication
The guide was edited at three different stages of its development. The first was upon completion of the first written pages when editing and critiques were provided by participants in the project committee. Editing the pages early in the process allowed for feedback and guided the subsequent writing of different sections. The second editing occurred when

the draft was submitted, and the third and final editing process takes place after review by the various interested parties.

The different editors that will be involved have varying backgrounds and areas of expertise that directly relate to the topics in the publication. Pages that relate to a particular agency's site are sent to a representative to allow for fact checking, and to be certain that no critical information is omitted. For example, when preparing the section about the Bennetts Bridge Hydropower Facility operated by Niagara Mohawk, a representative of the company, Mr. Gregg Carrington, was interviewed. During the editing stage, sections that relate to any aspect of the facility will be reviewed by Mr. Carrington or another representative of Niagara Mohawk. Because there may be various interests in one particular site, some of the pages should be reviewed by several parties. While the opinions of the reviewers must be respected and taken into consideration, all final decisions about content remains in the hands of the Oswego County Department of Promotion and Tourism.

Step 7. Publication Layout
The layout is defined as "the arrangement of informational materials (including text, illustrations, photos, and maps)." (Kuehn 1992) The look and design of the publication is important to attract and keep the interest of the visitors. In order to be visually appealing to a potential reader, it should look clean and uncluttered, text and illustrations should work in combination, and there should be careful use of open space. The inclusion of various types of graphics such as current and historic photos, maps, and illustrations is also essential in creating an effective and aesthetically pleasing publication.

A general rule in designing interpretive trails is to include no more than seven to ten stops. However, with self-guided auto tours, this rule does not apply because much greater distances will be covered (Veverka 1994) The issue of distance to be traveled along the Salmon River Corridor created some conflict between the information included and the needs of prospective users. To follow the entire route, including stops, may have taken between five and six hours, and there was concern that this might be excessive. Most hiking trails are designed so that they take from 30 to 45 minutes and not much longer (Ham 1992). Even though much greater distances are covered on auto tours, the time traveled should not be much greater. To address this, the entire route was broken into four individual driving tours, each of a more reasonable length. The tours begin and end at one of the designated attractions and the user is then given a choice to continue to the next "tour" or turn around at that point. In addition, the beginning of each tour includes an introductory paragraph giving the user a brief description of the tour and explains what will be encountered. Finally, the introduction to the guide includes brief descriptions of the four tours including the distance covered, the approximate length of travel time, and the attractions that will be seen along the route.

In addition, in order to minimize errors and the need for costly revisions after publishing, a "mini-evaluation" should be done before final printing. Several volunteers, who are not familiar with the area, should follow the tours in order to measure for those factors to be discussed in the evaluation stage (Step 9). These trial runs should look at distances, time traveled, ease of reading, and interest in the subject matter as a whole Because previous editing had taken place in pieces, once the guide is put together, potential problems which may not have previously been considered may arise, and should be fixed before publishing.

Step 8. Printing and Distribution
After being printed, the guide will be provided free to people who contact the Oswego County Department of Promotion and Tourism and specifically request it or inquire about information which is contained within the guide. Due to the high cost of production, approximately $1.50 per copy, it is not cost effective to make the guide openly available to those who might pick it up but not use it.

Step 9. Evaluation of the Guide and Its' Effectiveness
An evaluation of the publication's effectiveness for both visitors and the community will take place soon after its publication. This is an opportunity to measure whether the goals and objectives of the guide have been reached.

New York Sea Grant will coordinate an effort to evaluate the guide via a self-addressed and postage-paid questionnaire that will be included within the first printing of the publication. This survey should be used as a pre-test for a more extensive survey to be done. Some of the questions that will be included are: how they found out about the area, how they found out about the guide; whether they used the guide; what section of the guide were more/less useful; what information did they need/hope to find that was not included; demographic information about the users (how many people in the group, gender, age, etc.).

Finally, the evaluation process should include the means to improve upon and make changes to future editions of the guide The guide should be reevaluated, updated, and revised at regular intervals.

In addition to a survey of the users, further evaluation should be made which consider the residents of the community and measure whether the original objectives of the project have been met. The Department of Promotion and Tourism should send a more extensive survey to a randomly selected group of people that they have sent the guide. Upon completion of the evaluation, the information obtained should be used as feedback for Step 1 in order to run through the process again.

Project Implications

The original impetus for the project's initiation was a recommendation in a community development plan for the Oswego-Eastern Shores region Upon completion of this project, part of the goals of the plan has been reached and the Salmon River Corridor will become a better identified spur off of the Seaway Trail. This publication also furthers the goals of the Oswego County Department of Promotion and Tourism.

Table 2. Achievement of Goals and Objectives by Subtheme

Goals and Objectives	Subtheme 1. "The attractions found throughout the Corridor have histories which reveal the development of the area."	Subtheme 2. "The natural resources and natural history of the Corridor are worthy of admiration and preservation."	Subtheme 3 "Through stewardship and respect, the year-round recreational opportunities available along the Corridor can be maintained "
Goal 1. Further assist in developing the Salmon River Corridor as a Tourism Destination Zone.			
Objective A. Create Driving Tours to link sites and towns along the Salmon River Corridor	X	X	
Objective B. Promote the year-round activities available to visitors to the Salmon River Corridor.	X		X
Objective C. Promote the attractions found along the Salmon River Corridor.	X		X
Goal 2. Teach the value of protecting and enhancing the natural, scenic, and cultural resources of the Salmon River Corridor.			
Objective A. Promote and encourage safety and stewardship in conjunction with recreational uses.			X
Objective B. Give visitors to the area an awareness and appreciation of the history of the Salmon River Corridor.	X		
Objective C. Increase awareness and appreciation of natural resources along the Salmon River Corridor.		X	
Objective D. Develop children's activities to assist in increasing awareness of history and natural resources.	X	X	
Goal 3. Reduce conflict with visitors in order to enhance and maintain the quality of life for Salmon River Corridor residents.			
Objective A. Increase visitor consciousness and respect for private landowner rights.	X		X
Objective B. Increase economic benefits to residents due to increased tourism.	X		X
Objective C. Promote awareness and appreciation of Salmon River Corridor history and resources.	X	X	X

Finally, other projects which are being developed along the corridor, such as a Salmon River Greenway Plan or a Sportfishing Hall of Fame, may gain priority as the Salmon River Corridor gains a stronger identity as a tourism destination zone.

As evidenced in table 1, the publication also has the potential to bring many different market segments into the same places. This is especially true of the "family with children" and "resident" markets Because this may occur, the third goal of

the project, reducing visitor conflict, becomes especially important and should be reinforced beyond that of the guide.

Project Summary

From May 1994 to December 1994, a nine-step process, adapted from previous literature about interpretation, interpretive planning, and self-guided trails and auto tours, was followed to create the draft "Guide to the Salmon River Corridor."

The processes that were previously developed (Kuehn 1992, Veverka 1994) acted together to direct the guide's creation, but as every project will be different adaptations were necessary.

Goals and objectives were developed to direct the project's development and were supported by three major themes found within the guide. When published in the summer of 1995, the guide's themes will be used to accomplish these goals. Table 2 shows how the themes, goals, and objectives work together in order to be achieved. Furthermore, it is recommended that both before and after publication, an evaluation to measure the effectiveness and success in reaching stated objectives be performed. This evaluation will assist in the necessary update and revision.

Conclusions

The goals of interpretation state that by using established interpretive techniques and planning, interpretation can be an effective instrument for: promoting an area and its attractions, increasing appreciation and understanding about an area, and increasing awareness about and assisting in accomplishing management goals. The publication of the guide is a demonstration of how these goals and objectives can be achieved.

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THE INFLUENCE OF CURRENT TECHNICAL TRAINING N LIFEGUARD STAFFING IN CONNECTICUT STATE PARKS

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A Connecticut State Lifeguard in 1966 was expected to swim a 100 yard front-crawl approach in under a 90 second time limit, retrieve a 10 pound brick in 12 feet of water and apply back-pressure arm lift or mouth-to-mouth resuscitation on a drowning victim. Three lifeguard examinations were held in March and April to fill 166 positions distributed among 22 swim areas throughout the state. Each exam attracted approximately 100 candidates, who were required to be at least 18 years old. After the third exam, the Department of Environmental Protection hired the top 166 candidates and placed alternates on a waiting list. All positions were filled by Memorial Day.

The Parks Division of DEP presently conducts seven examinations from April to July in order to attract enough candidates to fill 99 possible positions for 18 swim areas. Although lifeguard staffing has been reduced for budgetary reasons, recruiting qualified candidates has been a more significant factor in reduced lifeguard hiring (Belanger 1989)

Unlike the prolific '60s, each exam currently attracts an average of a dozen candidates, despite an aggressive recruiting program of personal and written contacts to high schools, colleges, YMCA's, YWCA's, Red Cross chapters, local employment agencies, affirmative action agencies, and a number of other athletic organizations. Due to the economic boom in 1986, and a myriad of job opportunities, it was necessary to lower the minimum qualifying age from 18 to 17 in order to compete with local municipalities and private organizations, which hired lifeguards at age 16 (Hanley 1984). Only 88 out of a possible 99 Connecticut State Lifeguard positions were filled during the summer of 1994.

Almost 30 years later, the beach scenario has become less glamorous and more demanding. To qualify as a Connecticut State Lifeguard, a candidate is required to pass the DEP "Lifeguard Qualifying Examination" and obtain a professional CPR certificate, which must be renewed annually (Connecticut Department Of Health Services 1989).

Once these initial qualifications are satisfied, the lifeguard must then receive on-the-job training. A state lifeguard must demonstrate proficiency in utilizing one-way valve resuscitation masks, oxygen-equipped resuscitators, rescue boards, rescue buoys, spine boards with cervical collars, CPR boards, rubber gloves, bag-valve masks, diving masks, and rescue boats. Competency in team rescues, spine injury management, and search and rescue techniques are measured by the "mid-term" and "final" examinations, which are graded and filed.

To return for a second season, a freshman guard, which earns $6.00 per hour, must pass the mid-term and final exams, receive a favorable service rating, obtain a First Aid Certificate (which entails 8 hours of instruction and a $60 fee), and procure a safe boating certificate (which involves 10 hours of in-house instruction and a $25 fee) After satisfying these requirements the employee is then classified as a senior lifeguard, which earns $6 50 an hour If a freshman or senior guard demonstrates leadership qualities, along with meeting the above requirements, the employee may be promoted to a lifeguard supervisor, and earn $7 00 an hour. As the supervisor acquires additional years of experience, he or she may be transferred to direct a larger crew at an inland park and earn $7.50 per hour as a senior supervisor, or supervise a shoreline park and earn $8.00 as a beach director (Cavanaugh 1986).

Supplying the lifeguard program with personal protection strategies, such as one-way valve masks, rubber gloves, pith helmets, sun screen, resuscitators, Hepatitis B vaccinations and employee training, (which involves transmission and protection against blood-borne diseases), has encumbered an already underfunded agency Since August 15, 1988, Connecticut's Labor Department's Occupational Safety and Health Administration has had a significant impact on all employees who have first responder medical duties in emergency situations (Connecticut Department of Labor 1988). Complying with these regulations has been time-consuming as well as costly

In conclusion, lifeguarding in the '90s has become more complicated than working on a good tan and enjoying the status and glamour that is depicted on the television show "Bay Watch" (Waldman 1986) With the advent of documented safety concerns regarding the harmful ultraviolet rays of the sun and the risks involved in the exposure to blood-borne pathogens, lifeguarding is now a profession that demands swimming expertise and medical training, which is costly and time consuming to the employee as well as the employer The diminishing pool of candidates can be attributed to a negative interpretation of personal safety hazards, an unwillingness to invest time and finances to become qualified for a summer position, and a disproportionate monetary compensation for the moral and legal responsibilities involved (Wawrzynowicz 1985).

Although these are legitimate concerns, there are still candidates who are willing to obtain experience in outdoor public service for future career goals in recreation, rescue, law enforcement, teaching and medicine A reputable lifeguard program is a positive attraction to those who desire a professional affiliation with a highly rated lifesaving organization, and "word of mouth" is often the best recruitment tool. A sluggish economy with a limited job market is, ironically, another advantage in recruiting since many other

options are not available to the job-seeker. In contrast to the heyday of the '60s, creative recruiting has become an essential strategy in staffing the lifeguard crews of the '90s.

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NEW YORK STATEWIDE TRAILS PLAN: CORE ISSUES AND KEY RECOMMENDATIONS

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The New York Statewide Trails Plan was prepared to assist communities, public and private agencies, and trail users involved with trails, recreationways, and greenways in New York State. It was developed in cooperation with the New York State Trails Council, a citizen advisory committee of motorized and non-motorized trail interests.

Introduction and Purpose

The New York Trails Plan is a component of the 1994 Statewide Comprehensive Outdoor Recreation Plan (NYS OPRHP 1994). Its primary purpose, and subject of this paper, is to identify major issues and needs, and develop recommendations to further advance trail use policy and management in New York State. Additional objectives are to:

1. facilitate consultation and coordination among trail users and supporters through the identification of model projects and relevant planning initiatives; and,

2. provide information on potential sources of technical and financial assistance, as well as volunteer and advisory programs pertinent to trails, recreationways and greenway corridors.

The Plan is the first comprehensive study of issues and recommendations generic to both motorized and non-motorized trail interests in New York State. It is one of 16 trail plans that have been prepared in the past five years by state park and recreation agencies in the United States, including Vermont, New Hampshire and New Jersey in the Northeast (Moore 1994).

Background: Trails Across New York

The New York Statewide Trails Plan (Cobb 1994) establishes the diversity, uniqueness and extent of public interest in trailways to help emphasize the importance of the study. The Plan defines a trail as a linear corridor, on land or water, which provides for public access for purposes of recreation and transportation as well as related outdoor education and sport activities.

Motorized and non-motorized trail opportunities in New York are provided by local, state, and federal agencies, as well as through a range of formal and informal cooperative agreements with voluntary organizations and private landowners. It is estimated that volunteers help maintain about nine thousand miles of trail; 7,500 miles on private land, and 1,500 miles on public land.

The formal origins of recreation trail use in New York State occurred in 1892 when the State legislature appropriated $250.00 for completing a "public path" to the summit of Slide Mountain, the highest peak in the Catskill Park (Van Valkenburgh 1985), and a mountain popularized in the early nature writings of John Burroughs.

New York State now offers an estimated 16 1/2 thousand miles of trailways exclusive of the rapidly growing system of designated on-highway bicycle routes in urban, suburban, and rural areas. Long-distance trails across New York often follow historic transportation corridors including rivers, canal towpaths, mountain ridgelines, logging roads, old town roads, and abandoned rail corridors.

Trails such as the end-to-end Canalway Trail of the NYS Canal Recreationway, the Hudson River Trail, and Genesee River Trail are important components of greenways that are recognized in the report of the President's Commission on Americans Outdoors (PCAO) as the nation's most important land-based effort for conservation and recreation in the next several decades (PCAO 1987).

Self-contained trail systems are typically clustered in parks or other public lands. In New York City, about 220 miles of trails are managed by the City of New York Parks Department. The six-mile Ocean Parkway Bike Path in Brooklyn, established in 1895, and linking Prospect Park to Coney Island, is reputed to be the oldest designated bikeway in the United States. It constitutes a component of the Greenway Plan for New York City (NYC Dept. of City Planning 1993).

In the Adirondack Park, a six-million acre greenline park in northern New York State, are about two thousand miles of trails in wilderness and other classified units of the New York State Forest Preserve. The many hundreds of miles of water trails includes the 90-mile Fulton Chain of Lakes, an historic canoe route between Saranac Lake and Old Forge. The snowmobile trail system in Old Forge, including about 500 miles of groomed trails on private land, has made this hamlet the "snowmobile capital" of the Northeast. Near Lake Placid is the Nordic ski and biathlon trail system of the 1980 Winter Olympics. An extensive network of scenic roads and bikeways has been designated by the Adirondack North Country Association, a regional development and tourism organization (Cobb 1990).

The Wilkinson Trail, located in the Saratoga National Historical Park, the Long Island Greenbelt Trail; and the Seaway Trail, a scenic byway and bicycle route along the St. Lawrence River and Lake Ontario, and connecting to Pennsylvania, are three of 14 trails in New York State that have

been designated as national recreation trails. Similarly, the Appalachian Trail and North Country Trail in New York are components of two national scenic trails designated in 1968 when Congress passed the National Trails System legislation.

The Station for the Study of Insects, situated along the Appalachian Trail in Bear Mountain State Park, was the impetus for the development of an early experimental nature trail by the American Museum of Natural History in 1925, and is considered among the first interpretive trails to use wayside exhibits (Focht 1992). And in eastern New York, the Harlem Valley Rail Trail in Dutchess and Columbia Counties is depicted by the national Rails-to-Trails Conservancy as "among the most desirable, useful and attractive in the nation" (Harlem Valley Rail Trail Assn.

On the first National Trails Day in 1993, New York had over two thousand participants at more than one hundred events throught the State. The Newburgh-Beacon Greenway Trail over the Hudson River was a recipient of a Trails Day Award that year, as was the dedication of a 70-mile section of The Long Path at John Boyd Thacher State Park in 1994.

Collectively, trail-related activities account for the largest percent of the State population seeking outdoor recreation opportunities (Table 1) as well as those types of facilities suggested as most needed by people who seek close-to-home recreation (Table 2).

Critical Issues

The major issues and recommendations for trail use policy and management identified in the New York Statewide Trails Plan have been corroborated in large part by representatives of the State's motorized and non-motorized trails community. The New York State Trails Council (NYSTC), in particular, played an important role in developing the Plan. Established in 1981 to insure citizen participation in trail planning and management at all levels of government, the NYSTC consists of delegates representing hiking, snowmobiling, water trails (small boats), all-terrain vehicles (ATVs), motorcycle trail riding, four-wheel driving, snowshoeing, Nordic skiing, equestrian, and bicycling interests.

Among the core issues is funding for trail maintenance and operations. Of trail systems managed by public agencies, about 25 percent are in poor condition and require extensive rehabilitation or reconstruction. About 400 miles of trail were closed by public agencies from 1987-1990 due primarily to safety problems, lack of funding, and other management issues. Similarly, about eight percent of trails managed by private organizations are in poor condition. Only about 325 miles of trail are considered barrier free (NPS and AMC 1991).

Six additional major issues are:

1. expanding public support for trails and recreationways;
2. adequacy of liability protection for landowners and volunteers;
3. resolving conflicts between user groups for multi-use trails;
4. maintaining public access to existing trail systems;
5. availability of information on where to go; and,
6. user education, training, and

Table 1. Percent of population participating in selected trail activities as compared to other sports, recreation, and leisure interests (NYS OPRHP 1993).

Activity	Rural	Suburban	Urban	Intercity	Statewide
Relaxing in the park	67.9	65.1	69.8	70.8	67.0
Swimming	53.9	47.6	41.8	44.5	48.4
Bicycling	28.5	23.0	26.3	25.2	25.3
Golfing	15.7	19.8	19.2	7.7	17.0
Jogging	13.9	15.4	16.7	17.6	15.3
Tennis	11.2	18.2	21.7	14.6	16.3
Basketball	11.4	11.9	10.6	15.8	11.8
Field Sports	11.3	11.3	13.8	14.2	11.9
Visiting Zoos/Natural Areas	52.7	55.0	55.1	67.3	55.4
Visiting Historic Sites	52.4	51.7	49.6	55.2	51.3
Camping	33.1	17.6	23.7	29.2	24.0
Hiking	36.8	29.6	31.1	28.8	31.6
Hunting	10.2	4.2	3.7	5.7	6.0
Gardening	39.8	29.5	22.1	23.3	30.9
Boating	35.1	30.2	25.8	20.0	29.6
Fishing	28.1	17.3	17.6	17.1	20.4
Ice Skating	15.4	15.8	17.4	14.5	15.5
X-Country Skiing	13.9	6.8	11.7	5.9	9.4
Snowmobiling	6.8	2.5	1.7	3.1	3.6
Downhill Skiing	13.9	14.1	14.6	10.7	13.9

Another issue is to merge transportation needs and recreation values, including making trail facilities components of local and regional transportation improvement projects. Additionally, the economic importance of multipurpose trail systems to the travel and tourism industry has not been sufficiently established

In addition to these core issues are others more specific to one type of user group. Motorized trail interests, in particular, are concerned that there are very few trails in New York State that have been designed and maintained for ATVs and trail bikes, and take umbrage at ATV registration fees not being used as a designated revenue source It is estimated that 63,953 ATVs as well as 64,300 motorcycles and 43,852 light trucks were used off-road for recreational purposes in 1992 (Hu, Trumble and Hu 1994) These data suggest the seriousness of the problem. Similar problems arise over the growing off-road use of mountain bicycles, and conflicts with hikers and equestrians.

Table 2. Types of facilities suggested by people who believe more recreation facilities are needed within 30 minutes of their residence.

Facility Type	Percent Population
Summer Facilities	
General	54
Picnic Area	46
Swimming Pool	32
Raquetball/Handball Courts	28
ATV Trail	27
Playground	26
Hiking Trail	19
Local Parks	18
Tennis Courts	16
Bicycle Trail	16
Fishing Access	14
Golf Courses	12
Tent/RV Camping	12
Beach	8
Boat Launch	8
Basketball Courts	8
Maintenance	7
Nature Trail	5
Jogging Trail	5
Soccer	4
Hunting	3
Baseball/Softball Fields	3
Winter Facilities	
Ice Skating Rink	14
Cross-Country Skiing	13
Downhill Skiing	3
Snowmobile Trail	1

Note. These data derive from the New York State general public recreation survey conducted in 1991 When directly asked if more facilities are needed within thirty minutes of where they lived, about 43 percent of the respondents responded "yes." The facilities requested most by this group are noted in Table

Other important issues recognize the need for a universal system of signage, appropriate compliance with the Americans with Disabilities Act, securing abandoned railroad corridors, the design and location of trail heads, and dismantling of abandoned bridges before being assessed for potential trailway purposes

Key Recommendations

To help resolve issues impeding trail use policy and development in New York State, nine recommendations and associated action strategies are identified in the Statewide Trails Plan.

1 Congress and the State Legislature should support State and private initiatives that enhance forest-based trail and other recreation opportunities for the public.

- A. Strengthen provisions of the New York State General Obligations Law to protect landowners who allow responsible public recreational use of their properties.
- B Update liability statutes to establish hold-harmless mechanisms whereby the State underwrites a landowner's defense against personal injury suits, or assumes costs for property damage and littering from public use.
- C. Reduce property taxes for landowners who allow responsible public use of their lands.

2. Formally establish a Statewide Trail Planning and Development Program in New York State.

- A Create the position of "State Trails and Recreation Coordinator" in State government to assist landowners and trail users.
- B Convene an intergovernmental advisory committee of municipal, town, county, state, and federal representatives to work in cooperation with the New York State Trails Council
- C Maintain a statewide inventory of trails and recreationways utilizing Geographic Information System (GIS) technology.

3 Provide adequate funding for trails and outdoor recreation.

- A Congress should institute a national excise tax on outdoor specialty recreation equipment for funds that should support public access as well as management and expansion of outdoor recreational opportunities on public and

private lands in order to meet the needs of landowners and land users.

B. Support continued funding of bicycle and pedestrian projects, scenic roads, and other eligible projects of the Intermodal Surface Transportation Efficiency Act (ISTEA) and the National Recreational Trails Act.

C. Support an increase in appropriations to the Land and Water Conservation Fund.

4. Encourage coordination of trail planning and development across lines of political jurisdictions, agencies, and levels of

A. Provide good examples of partnership agreements between trail user groups, private or corporate landowners, and land management agencies to enhance or develop new trail opportunities.

B. Integrate trails into the regional, state, and local planning processes, including zoning.

C. Facilitate intermodal opportunities for both transportation and recreation purposes, including linkages to bus and rail transit systems.

5. Foster better communication and cooperation among all types of users and providers.

A. Post trail etiquette and user responsibility guidelines at local and State trail areas, and publish them in guidebooks and trail maps

B. Establish local and regional trail advisory committees.

C. Provide and encourage public information and maps showing trail opportunities with good information on accessibility and levels of difficulty, including those that provide facilities for the disabled

6. Enhance trail connections and public access to parks, historic sites, greenways, water routes, interpretive centers and/or other natural and cultural resources

A. Research and develop trail designs that facilitate access for all trail users as opposed to separate facilities for the handicapped.

B. Continue to advance the development of a statewide system of interconnected trails and greenways, including conducting an inventory of abandoned rail corridors.

C. Identify and coordinate linkages to the Seaway Trail, Canalway Trail, Hudson River Trail, East Coast Greenway, bikeways, scenic roads, snowmobile trails and other long-distance trail systems in New York State

7. Advance stewardship of the State's existing trail system

A. Encourage community and user groups to participate in adopt-a-trail maintenance programs as well as assist with police and fire protection

B Develop a "Trail Management Manual" that incorporates policies, guidelines and standards for the planning, construction, operation, and maintenance of trail systems.

C Support volunteers and expand their involvement in the maintenance, management, and development of trail resources.

8. Increase public awareness of the economic, social, educational, health, and environmental benefits associated with trails and greenway corridors.

A Foster citizen participation in annual New York Trails Day activities or other events which encourage recognition of trails and trail projects throughout the State

B. Develop multi-media presentations and articles on trail benefits and opportunities for local media and civic organizations.

C Publicize volunteer trail projects, opportunities, and recognize accomplishments

9 Conduct research in trailway use and development, encourage information exchange and training programs

A Monitor trends in trail activities through surveys, registrations, sales figures, and experience of other states

B Establish a clearinghouse for maps, plans, design standards, and other trail information with emphasis on the land and water trailway system of New York, neighboring states, and provinces.

C. Develop case studies on innovations and model demonstration projects, including nominations for additions to the National Recreation Trail system in New York State

Discussion

The issues and recommendations set forth in the New York Statewide Trails Plan are intended to be consistent with planning initiatives associated with trails and greenways, locally and regionally, including the findings and recommendations of the Report of the New York/New England Trails Summit (NPS and AMC 1993). The Summit convened 270 trail users and supporters in 1992 to assess trail needs and issues, and to identify ways to protect and enhance trailway resources on a regional basis

Other relevant plans and reports include pertinent recommendations of the Northern Forest Lands Council (NFLC 1994), New York State Open Space Conservation Plan (NYS DEC and OPRHP 1992), State of New York Snowmobile Trail

Plan (Wood 1989); and, the Statewide Bicycle and Pedestrian Concept Plan (Olson 1994)

The Report of the National Trails Agenda Project (American Trails and National Park Service 1990); Americans Outdoors. The Report of the President's Commission (PCAO 1987); and, the national survey of state trail administrators, State Trail Programs (Moore 1994), provide important national policy perspective on trail use policy and management

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